SDC-10 1080p D-ILA 3D Front Projector **User's Manual**

WOLF
CINEMA

ABOUT THIS MANUAL

This manual is designed for use with the Wolf Cinema SDC-10 Home Cinema Projector. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information and specifications in this document are subject to change without notice.

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TRADEMARKS

All trademarks and registered trademarks are the property of their respective owners.

The lighting flash with arrow head within an equilateral triangle is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNAL ONLY.

Notices

WARNING! To meet FCC requirements, a shielded power cord is recommended in order to prevent interference. It is essential that only the supplied power cord is to be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not approved by the party responsible for compliance could void your authority to operate the equipment.

WARNING! High-brightness light source. Do not stare into the beam of light, or view directly. Be especially careful and ensure that children do not stare directly into the beam of light.

WARNING! To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

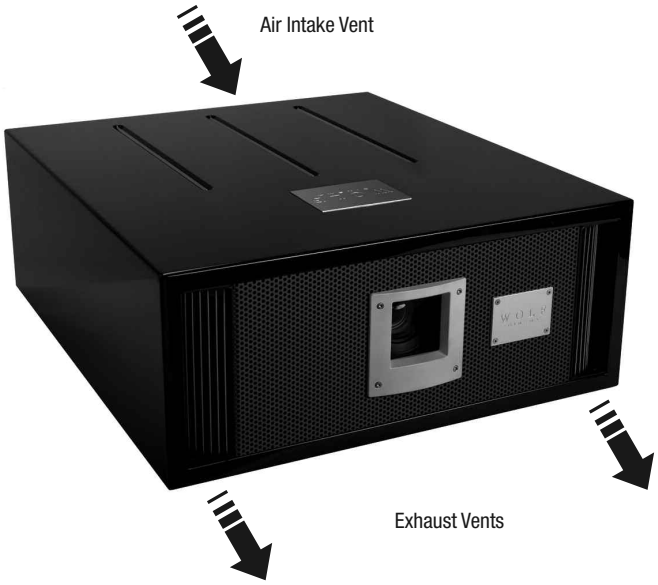
CAUTION! For minimal servicing and to maintain high image quality, we recommend that you use the projector in an environment that is smoke and dust free. When used in areas where there is a lot of smoke or dust, the filter and lens should be cleaned often to lengthen the service life of the projector.

WARNING! IC chips or other technologies in the product include confidential and/or trade secret property belonging to either Wolf Cinema or the Victor Company of Japan (JVC). Therefore you may not copy, modify, adapt, translate, distribute, reverse engineer, reverse assemble or decompile the contents thereof.

WARNING! The ventilation slots and objects next to them may get extremely hot during operation. Do not touch these areas until they have sufficiently cooled down.

DISPOSAL Do not use household or municipal waste collection services for disposal of electrical and electronic equipment. EU countries require the use of separate recycling collection services.

CAUTION REGARDING THE EXHAUST OF THE PROJECTOR
Do not place the projector in a space that is poorly ventilated or confined. Allow at least 20 in. (50 cm) clearance from walls and have free air flow around the projector.



Before using the projector, please read this operation guide carefully.

To facilitate reporting the loss or theft of your Wolf Cinema components, record the Serial Number located (a) on the bottom of the projector and (b) on the rear of the outboard ProScaler, if applicable; retain this information. Before recycling the packaging, be sure that you have checked the contents of the carton(s) thoroughly against the list of “Package Contents” on page 6.

WARRANTY
This product comes with an original owner's Manufacturer's Warranty. See the separate Statement of Warranty for complete details.

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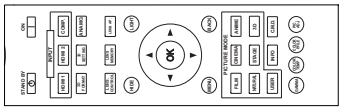
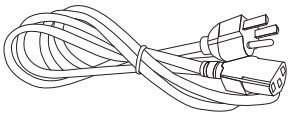
Introduction

Package Contents

Open the package and ensure that you have the following items:

		
System IR Remote	**Two "AA" size batteries**	**Power cord (By country)**
	• Stereoscopic (3D) emitter and 3D glasses, adult and child editions available	• Wolf Cinema ProScaler • Replacement lamp • Filter
Owner's Manual	**Optional accessories:**	**Optional accessories:**

Note: • Some of the cables may not be included depending on the region. Please check with your nearest Authorized Dealer.
• If anything is missing or appears damaged, contact your Wolf Cinema dealer immediately.

Thank you for purchasing the Wolf Cinema SDC-10 – a next-generation stereoscopic (3D) home cinema projector.

Suitable for home theater screens up to 12' in width, the SDC-10 is built around a three-chip, D-ILA® [Direct Drive Image Light Amplifier] light engine for ultra-high-fidelity 1080p viewing. D-ILA is a LCoS [Liquid Crystal on Silicon] technology originated by the Victor Company of Japan [JVC], which produces stunning film-like imaging with deep contrast level performance and natural color renditions. The system is complemented by custom Wolf Cinema video processing algorithms with advanced optics that deliver razor-sharp images from today's most demanding HD sources.

New for this year is the integrated Wolf Cinema VariScope™ lens memory system. This unique technique enables quick access to the three most common video aspect ratios – 1.78:1, 1.85:1 and 2.35:1 – all without the need of an external anamorphic lens. This feature provides for full 2:35:1 CinemaScope™ widescreen viewing without those unwanted top/bottom "black bars" on appropriate cinema screens. And for true film aficionados everywhere, two precision VariScope™ FX fixed anamorphic lens assemblies are available – especially useful when taking advantage of the full installation range of the primary system optics.

Optimized Wolf Cinema 3D shutter glasses and 3D signal emitter remain important accessory options, available whenever one desires the finest in personal 3D viewing experiences.

Like all Wolf projectors, the SDC-10 is designed with a highly-efficient thermal chassis for extended projector and lamp life. Multiple whisper fans help keep the light engine at optimum running temperatures by routing air in a rear-to-front design, facilitating a wide range of placement options for the custom installer. Last but not least, SDC-10 projector ceiling mount kits are also available for ease of installation.

The SDC-10 is delivered in an elegant high-gloss black cabinet, and provides for complete system IR remote control, LAN and RS-232 control capabilities. The SDC-10 boasts a dual set of HDMI 1.4 inputs and one set of component video inputs.

We hope you enjoy your Wolf Cinema home theater experience.

SDC-10 FEATURES AND SPECIFICATIONS:

- D-ILA® three-chip, 1920 x 1080 [1080p] home cinema projector
- Onboard VariScope™ lens memory system [three custom presets] for 1.78, 1.85 and 2.35:1 film aspect ratio viewing
- Advanced real time 2D-to-3D viewing modes
- 220W lamp, 1300 ANSI, ~70,000:1 CR performance
- Ultra-high contrast chipset with next-gen home cinema iris
- Hand calibrated for both 2D and 3D operation
- 6 custom preset viewing modes, 3 color space memories and screen surface compensation driver
- Extended range primary lens: 1.45:1 to 2.78:1 TD
- Inputs: HDMI 1.4a (2), Component (1)
- IR Remote Control included plus LAN, RS-232 system control capabilities
- Two optional VariScope FX™ fixed anamorphic lens assemblies
- Elegant gloss black cabinet with optimized thermal design for extended projector and lamp life
- Optional 3D starter pack includes 3D signal emitter and two pair of active glasses; additional glasses available
- Optional WC-PM-M ceiling mount kit

***Note: Post calibration light output and contrast performance will vary based on screen size, screen gain, ambient light conditions and more.**

Getting Started

Safety Precautions

IMPORTANT INFORMATION
This product has a High Intensity Discharge (HID) lamp that contains mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities or for USA, the Electronic Industries Alliance: http://www.eiae.org.

WARNING! TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING! THIS APPARATUS MUST BE GROUNDED.

CAUTION: To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.

This projector is equipped with a 3-blade grounding type plug to satisfy FCC rule. If you are unable to insert the plug into the outlet, contact your electrician.

About the Installation Place
Do not install the projector in a place that cannot support its weight securely. If the installation place is not sturdy enough, the projector could fall or overturn, possibly causing personal injury.

IMPORTANT SAFEGUARDS
Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD. In order not to defeat the safeguards incorporated into this product, observe the following basic rules for its installation, use and service. Please read these Important Safeguards carefully before use.

– All the safety and operating instructions should be read before the product is operated.

– The safety and operating instructions should be retained for future reference.

– All warnings on the product and in the operating instructions should be adhered to.

– All operating instructions should be followed.

– Place the projector near a wall outlet where the plug can be easily unplugged.

– Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

– Do not use attachments not recommended by the product manufacturer as they may be hazardous.

– Do not use this product near water. Do not use immediately after moving from a low temperature to high temperature, as this causes condensation, which may result in fire, electric shock, or other hazards.

– Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. The product should be mounted according to the manufacturer's instructions, and should use a mount asrecommended by the manufacturer.

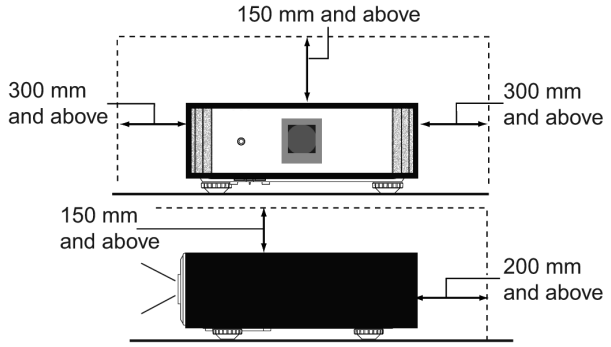
– When the product is used on a cart, care should be taken to avoid quick stops, excessive force, and uneven surfaces which may cause the product and cart to overturn, damaging equipment or causing possible injury to the operator.

PORTABLE CART WARNING
(symbol provided by RETAC)

S3126A

– Slots and openings in the cabinet are provided for ventilation. These ensure reliable operation of the product and protect it from overheating. These openings must not be blocked or covered. (The openings should never be blocked by placing the product on bed, sofa, rug, or similar surface. It should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.)

– To allow better heat dissipation, keep sufficient clearance between this unit and its surrounding as shown below. When this unit is enclosed in a space of dimensions as shown below, use an air-conditioner so that the internal and external temperatures are the same. Overheating can cause damage.



– Use the power source indicated on the label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

– This product is equipped with a three-wire plug. This plug will fit only into a grounded power outlet. If you are unable to insert the plug into the outlet, contact your electrician to install the proper outlet. Do not defeat the safety purpose of the grounded plug.

– Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at doors, plugs, receptacles, and the point where they exit from the product.

– For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the product due to lightning and power line surges.

– Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in a risk of fire or electric shock.

– Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

– Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages and other hazards. Refer all service to qualified service personnel.

– Unplug this product from the wall outlet and refer service to qualified service personnel under the following conditions:

  a) When the power supply cord or plug is damaged.

  b) If liquid has been spilled, or objects have fallen on the product.

  c) If the product has been exposed to rain or water.

  d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the Operation Manual, as an improper adjustment of controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

  e) If the product has been dropped or damaged in any way.

  f) When the product exhibits a distinct change in performance, this indicates a need for service.

– When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or with same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

– Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

– The product should be placed more than one foot away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.

– When connecting other products such as VCR's, and DVD players, you should turn off the power of this product for protection against electric shock.

– Do not place combustibles behind the cooling fan: for example, cloth, paper, matches, aerosol cans or gas lighters that present special hazards when overheated.

– Do not look into the projection lens while the illumination lamp is turned on. Prolonged exposure to the strong light can result in impaired eyesight.

– Do not look into the inside of this unit through vents (ventilation holes), etc. Do not look at the illumination lamp directly by opening the cabinet while the illumination lamp is turned on. The illumination lamp also contains ultraviolet rays and the light is so powerful that your eyesight can be impaired.

– Do not drop, hit, or damage the light-source lamp (lamp unit) in any way. It may cause the lamp to break and lead to injuries. Do not use a damaged light source lamp. If the lamp is broken, ask your dealer to repair it. Fragments from a broken lamp may cause injuries.

– Do not ceiling-mount the projector to a place which tends to vibrate; otherwise, the projector and/or mounting assembly could be broken by the vibration, possibly causing it to fall or overturn, which could lead to personal injury.

– For health reasons, please take a break of about 5-15 minutes after every 30-60 minutes and let your eyes rest. Please refrain from watching any 3D-images when you feel tired, unwell or if you feel any other discomfort. Moreover, in case you see a double image, please adjust the equipment and software for proper display. Please stop using the unit if the double image is still visible after adjustment.

– Once every three years, please perform an internal test. This unit is provided with replacement parts needed to maintain its function (such as cooling fans). Estimated replacement time of parts can vary greatly depending on frequency of use and the respective environment. For replacement, please consult your dealer, or the nearest authorized Wolf Cinema service center.

– When affixing the unit to the ceiling, please note that we do not take any responsibility, even during the warranty period, if the product is damaged due to use of ceiling mounts other than our own or if the installation environment of said ceiling fixtures is not appropriate. If the unit is suspended from the ceiling during use, please be careful with regard to the ambient temperature of the unit. If you use central heating, the temperature close to the ceiling will be higher than normally expected.

– Video images can burn into the electronic component parts. Please do not display screens with still images of high brightness or high contrast, such as found in video games and computer programs. Over a long period of time it might burn into the picture element(s). There is no problem with the playback of moving images, e.g. normal video footage.

– Malfunctions can also occur when not using the projector for longer periods of time. Please power it on and let it run occasionally. Please avoid using the unit in a room with heavy cigarette smoke. It is impossible to clean optical component parts if they are contaminated by nicotine or tar and will lead to performance degradation.

– Please watch from a distance from between two to three times the height of the projected image size. Persons with photosensitivity, any kind of heart disease, or weak health should not use 3D glasses.

– Watching 3D-images may cause nausea or illness. If you feel any change in your physical condition, please stop watching immediately and consult a physician.

– When watching 3D-images, it is recommended that you take regular breaks. As the length and frequency of the required breaks vary for every person, please judge according to your own condition.

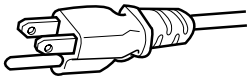
– If your child watches while wearing 3D glasses, he or she should be accompanied by the child's parents or an adult guardian. The parent or adult guardian should be careful to avoid situations where the child's eyes might become tired, and it is possible for the child's physical condition to deteriorate quickly. As a person's visual sense is not yet fully developed in children under the age of 6, please consult a physician in regard to any problem concerning 3D viewing, as necessary.

– Note that when using the 3D feature, the video output may appear different from the original video image due to image conversion on the device.

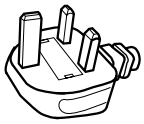
Note: DO NOT allow any unqualified person to install the unit. Be sure to ask your dealer to install the unit (i.e., attaching it to the ceiling) since special technical knowledge and skills are required for installation. If installation is performed by an unqualified person, it may cause personal injury or electrical shock.

POWER CONNECTION

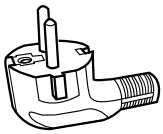
For USA and Canada only Use only the following power cord.



The power supply voltage rating of this product is AC110V – AC240V. Use only the power cord designated by our dealer to ensure Safety and EMC. Ensure that the power cable used for the projector is the correct type for the AC outlet in your country. Consult your product dealer.



For United Kingdom



For European continent countries

WARNING! Do not cut off the main plug from this equipment. If the plug as fitted is not suitable for the AC outlets in your home or the cable is too short to reach an outlet, then obtain an appropriate safety-approved extension cord or adapter, or consult with your dealer. If the main plug is cut off or damaged, dispose of the entire cord immediately. If a new cord or plug is to be used, then follow the instruction given herein or consult your dealer.

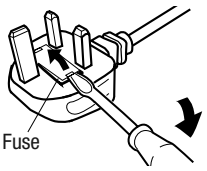
WARNING! THIS APPARATUS MUST BE GROUNDED.

IMPORTANT (Europe only): The wire in the cord on this product are colored in accordance with the following pattern: Green-and-yellow – Earth, Blue – Neutral, Brown – Live

As these colors may not correspond with the colored terminals in your plug, proceed as follows: The wire which is colored green-and-yellow must be connected to the terminal which is marked M with the letter E or the safety earth or colored green or green-and-yellow. The wire which is colored blue must be connected to the terminal which is marked with the letter N or black colored. The wire which is colored brown must beconnected to the terminal which is marked with the letter L or red colored.

POWER CONNECTION (United Kingdom only) HOW TO REPLACE THE FUSE:

When replacing the fuse, be sure to use only a correctly rated approved type, re-fit the fuse cover.
IF IN DOUBT — CONSULT A COMPETENT ELECTRICIAN.
Open the fuse compartment with the blade screwdriver, and replace the fuse.
(* An example is shown in the illustration at right.)



Information for Disposal of Old Equipment and Batteries (European Union only)

These symbols indicate that equipment with these symbols should not be disposed of as general household waste. If you want to dispose of the product or batteries, please consider the collection systems or facilities for appropriate recycling.

Products

Battery

Note: The sign Pb below the symbol for batteries indicates that this battery contains lead.

Accessories/Optional Accessories

Check your Accessories

Remote Control	1 piece
AAA size Batteries	2 pieces
Power Cord For the US market (2 m)	1 piece
Power Cord For the EU market (2 m)	1 piece
Power Cord For the UK market (2 m)	1 piece

- Instruction manual, warranty card and other printed material are also included.

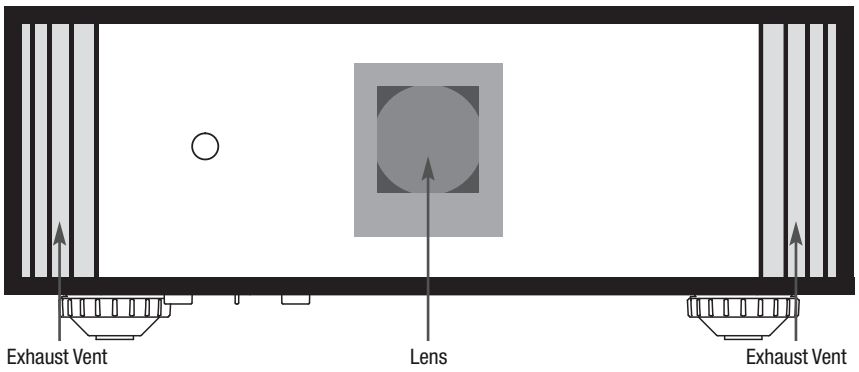
Optional Accessories

Please check with your authorized Wolf Cinema dealer for details on all accessories, including the optional 3D glasses and emitter.

- Replacement Lamp: WC-LPU220 220W UHP Lamp Assembly
- Replacement Filter: WC-FPSDC-01
- 3D-Glasses: WC-SD3PK-01 3D starter pack: includes IR emitter and 2 (two) pair of Active 3D Shutter Glasses, Adult
  WC-SD3DA-01 Active 3D Shutter Glasses, Adult
  WC-SD3DC-01 Active 3D Shutter Glasses, Child
- Projector Ceiling Mount Kit: WC-PM-M

Controls & Features

Main Body - Front



Lens This is a projection lens. Please do not look inside during projection.

Remote Receiver (front) Please aim the remote control at this area when using it.
- There is also a remote receiver at the rear.

Indicator Please see "Status indicator lights display" for details. (Reference page: 17)

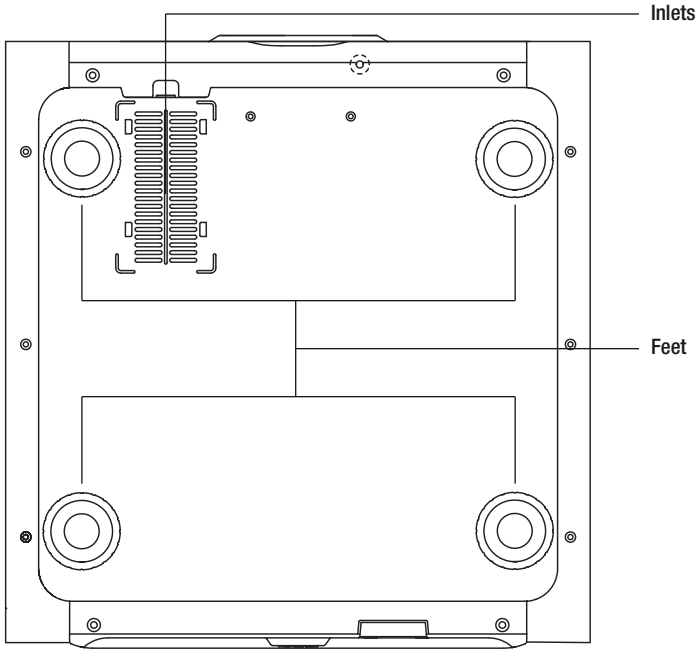
Exhaust Vent Warm air flows out in order to cool the interior of the projector. Please do not block the vents.

Bezel and Front Logo Orientation The front Wolf Cinema logo and lens bezel can be removed and re-oriented to best suit your installation. Use a 2.5mm hex or Allen key [not included] to remove the front lens bezel; use a 1/16" key [not included] to remove and reverse the Wolf Cinema badge.

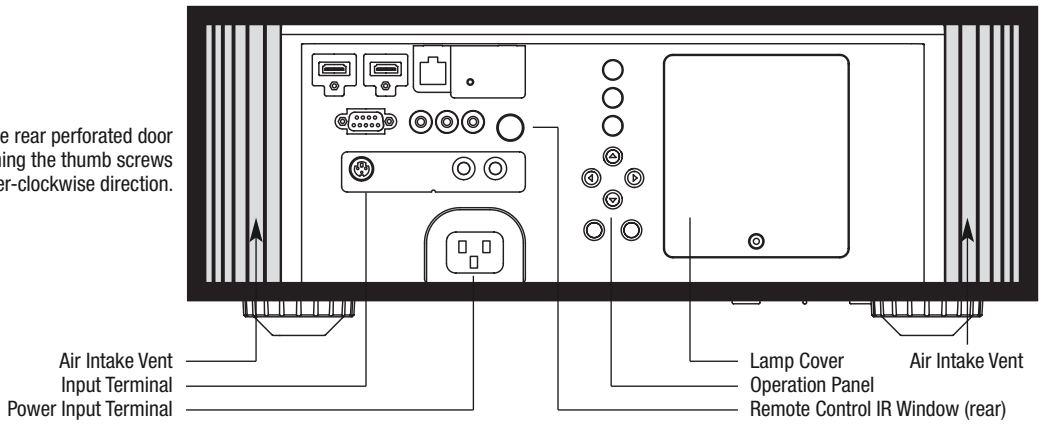
Main Body - Bottom

Inlets (at 3 points on the rear/bottom) In order to cool the inside of the unit, air flows from the chassis rear and base plate toward the front vents. Do not block or prevent air flow into or out from the projector, as doing so could lead to failure of the unit.
- There is one air intake vent on the projector base plate, and two air intakes along the right rear sides.

Feet The height (0 to 5 mm) can be adjusted by turning the foot.



Main Body - Rear



Input Terminal These are the main system interconnect terminals – 2 HDMI inputs, 1 DB15 terminal for PC connection, 1 Component Video input, and so forth, plus ports to connect the optional 3D signal emitter.

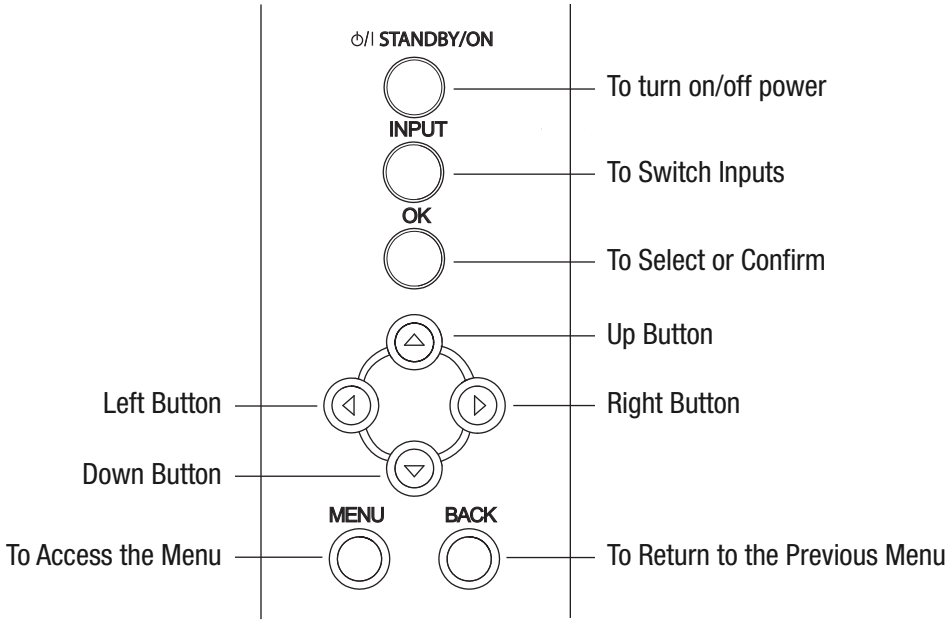
Lamp Cover Remove this cover to replace the projector lamp. (Reference page: 62)

Operation Panel See the following illustration "Control panel" for more details.

Remote control IR window (rear) Aim your remote control at this section when using the IR remote.

AC Terminal This is the AC input terminal. It is connected via the supplied power cord. (Reference page: 33)

Operation Panel



Status Indicator Lights
LED indicators are present during normal operation mode of this unit, and are displayed with the indicators for [STAND BY / ON], [LAMP], and [WARNING].

Meaning of the indicators:

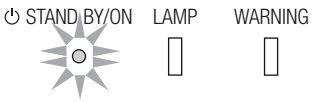
The indicator light in a steady state.

The indicator light is "flashing" to alert the user to a state change.

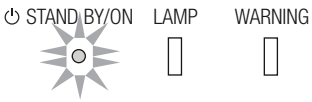
Operation Mode

Displays the color and lighting/flashing of the [STAND BY / ON] indicator.

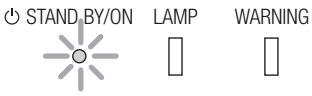
STAND BY Light on (Red)
During stand by



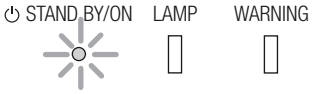
STAND BY Light on (Green)
While activating the lamp (about1minute)



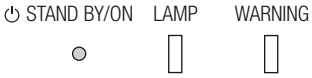
STAND BY Blinking (Red)
During cool down



STAND BY Blinking (Green)
When "Hide" is set to ON

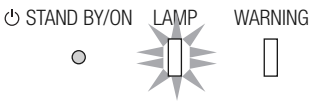


All Off
During image projection



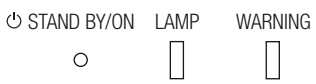
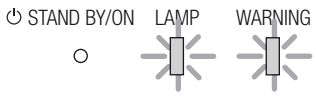
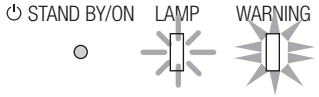
Lamp Replacement Indicator
Displays lighting/flashing of the [LAMP] indicator.

LAMP Light On (Orange)
Lamp replacement time is near
(accumulated lamp time exceeds 2900 hours)



Front panel indicator lights inform you of various operating conditions with the projector. Certain warning notices are provided by the repeated flashing of the [WARNING] and [LAMP] indicators. Moreover, the [STAND BY / ON] indicator, which shows the operating mode of the unit, may also be displayed simultaneously with either indicator lights.

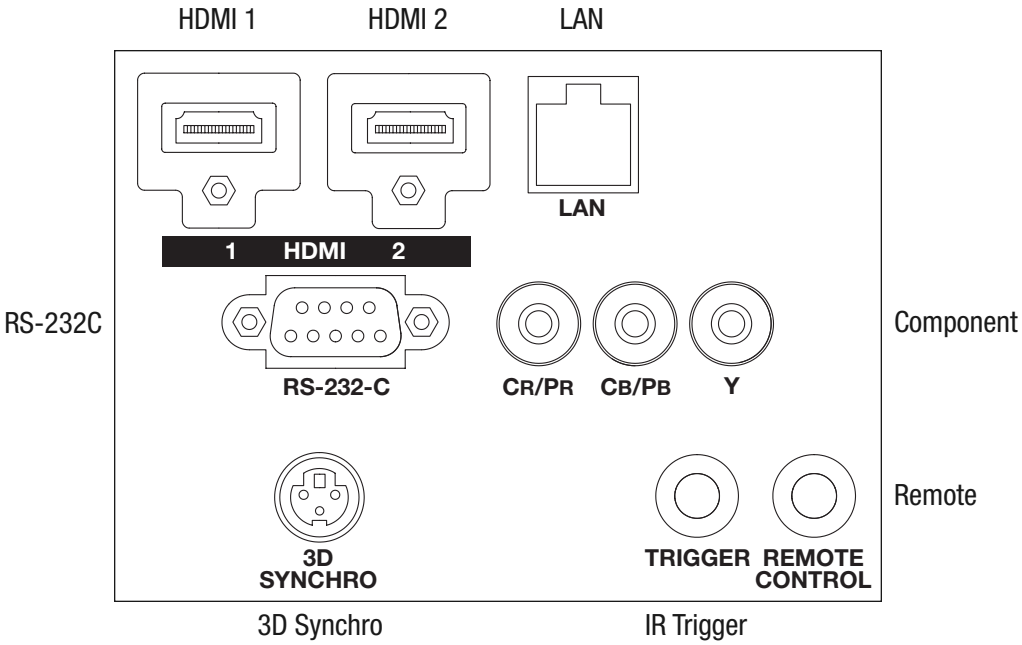
During any [WARNING] mode indication, the light output is interrupted for about 60 seconds and the cooling fan is turned on. Please disconnect the power plug from the electric socket ONLY after the cooling fan has stopped running. Additional indicators and actions are noted below:

Lighting/Flashing Lights Status Diagram	Blinking Frequency	Content	Confirmation and Countermeasures
 (red) Mode Display (*)	1 time	Power supply problems	• Check that nothing is blocking the air inlets. • Insure that the external temperature is normal. **Action** Leave the unit until it cools down. After that, turn on the power again.
	2 times	Cooling fan stops running	
	3 times	Internal temperature is too high	
	4 times	External temperature is too high	
 (orange) (red) Mode Simultaneous Display Flashing	1 time	Faulty electrical circuit	
	2 times		
	3 times		
	4 times	Something is wrong with the automatic lens cover	• Check that an impact shock has not occurred during operation. • Check that the lampunit and lamp door cover are both correctly installed. • Check that nothing is blocking the auto lens cover. **Action** Turn on the power again.
 (orange) (red) Mode Display	1 time	Lamp does not light up and does not project an image	
	2 times	Lamp is turned off during projection period	
	3 times	Lamp cover is removed	

If any warning indicators are displayed multiple times [after power cycling], please wait for the cooling fan to stop, then carefully remove the power plug from the AC power outlet. Contact your authorized dealer for repair.

(*) When the scheduled time for the lamp replacement is exceeded, this indicator might also illuminate.

Main Input Terminal



HDMI 1 Terminal
You can connect any source component equipped with an HDMI output. There is also a M3 locking hole (hole depth 3mm).

HDMI 2 Terminal
You can connect any source component equipped with an HDMI output. There is also a M3 locking hole (hole depth 3mm).

LAN Terminal (RJ-45)
This is a LAN-terminal. The projector may be operated via networked PC or system controller commands.

RS-232C Terminal (male D-Sub 9 pin)
This is a standard RS-232C interface terminal for external system controller connectivity.

COMPONENT Terminals (RCA x 3)
Standard input terminals for analog RGB (Synch on G), component (Y, Cb, Cr), DTV format (Y, Pb, Pr) video signals.

3D SYNCHRO Terminal
3D synchro emitter connector: connect the external 3D emitter (sold separately) to enjoy 3D content.

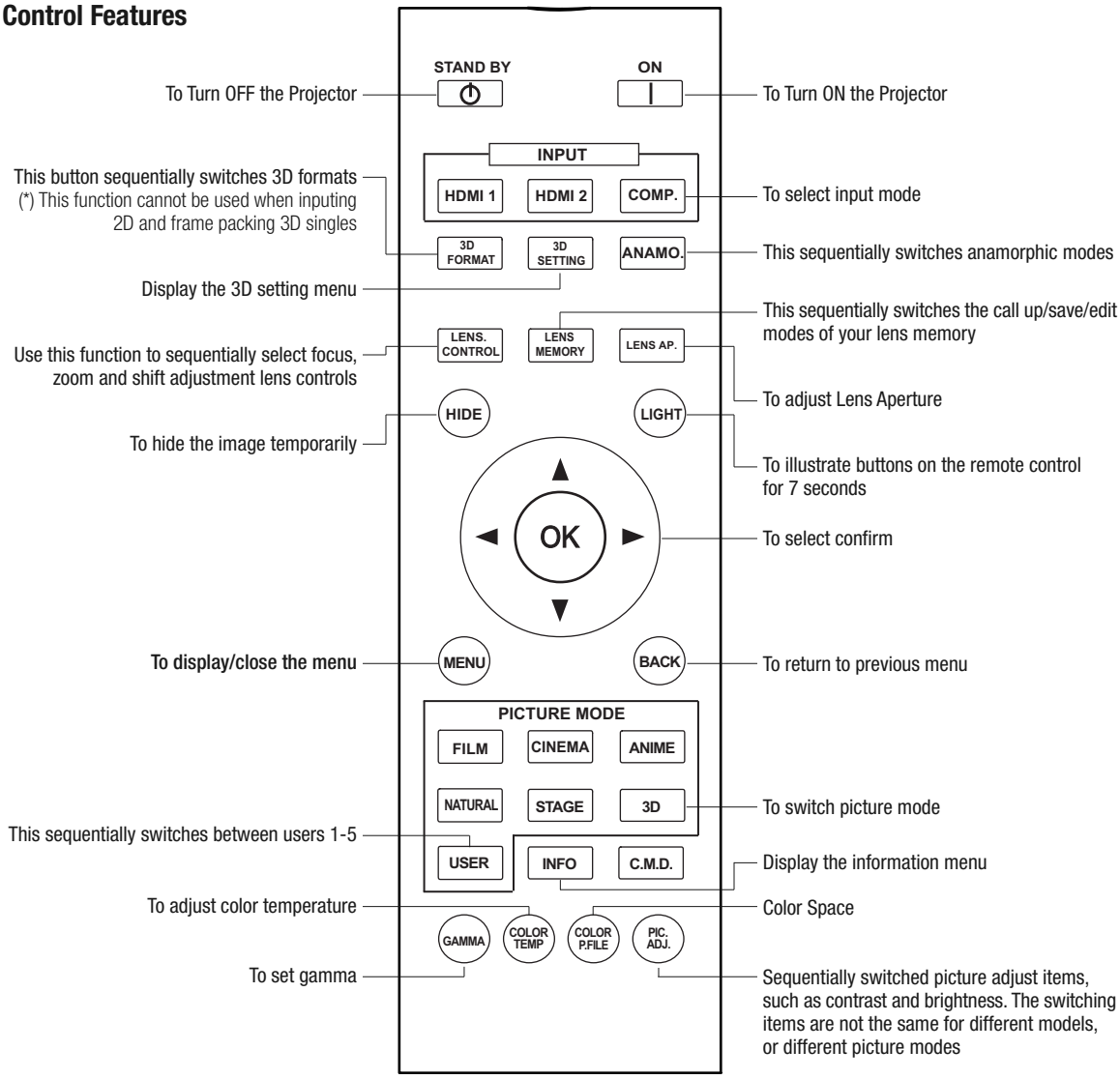
PC Terminal (D-Sub 15 pin)
Input terminal used to connect any Personal Computer (RGB video and sync signals).

Trigger (⊖-⊙-⊕)
12V DC power supply output terminal (100mA). This is typically used to control motorized or masking screens; contact your Wolf Cinema installer for further details.

Note: Damage can be caused to third party equipment if the connection is performed incorrectly. (Tip = DC +12 V, Sleeve = GND)

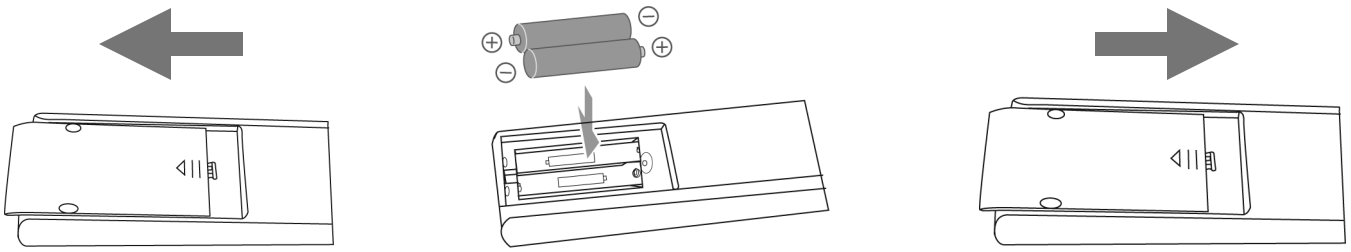
IR REMOTE terminal (Stereo mini jack)
This terminal may be used with compatible third party IR sensors, in the event the main chassis IR sensor(s) are hidden or otherwise inaccessible. Consult with your authorized Wolf Cinema dealer or installer for further details and technical support.

Remote Control Features



Inserting Batteries into the Remote Control

- Slide open the rear cover, then insert the batteries according to the positive (+) and negative (-) indicator marks. Insert the (-) end first.
- If an error occurs when using the remote control, remove the batteries and wait for 5 minutes. Load the batteries again and continue operating the remote control.



About Installation

Important Points Concerning Installation

Please read the following carefully before installation of this projector

Installation Environment

CAUTION

This unit is a precision device. Therefore, please refrain from installation or usage in the following locations, otherwise, fire or serious malfunction may occur:

- Dust, wet and humid locations.
- Sooty or cigarette smoke filled locations.
- On top of a carpet or bedding, or other soft surfaces
- Locations with very high ambient temperatures - as located in direct sunlight.
- Locations with high or low temperatures.
  Permissible extreme high or low operating temperature range: +5 º to +35º.
  Relative humidity range permissible for operating: 20% ~ 80% (non-condensing).
  Storage temperature tolerance: -10º to +60º.
- If the installation of the unit is done in a room with soot and/or smoke over a longer period, even small amounts of these substances may affect the device. This unit cools its optical components (which produce a great deal of heat) via air flow through the projector. If the optical circuits get dirty, this might lead to malfunctions, such as the video images becoming darker or a deterioration of color fidelity. Dirt sticking to the optical components cannot be removed.

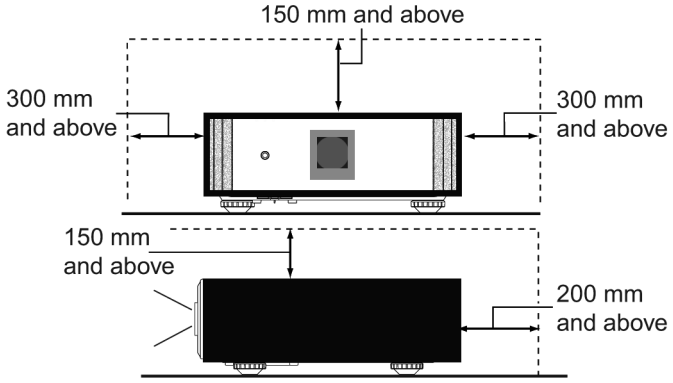
Please Perform the Installation at a Set Distance from Walls and Other Devices

CAUTION

For optimum heat dissipation, please keep a minimum distance between this unit and its surroundings as shown in the following illustration.

Moreover, please keep the front of the unit clear from all obstructions. If there are any objects in front of the exhaust ports, hot air may flow back into to the unit and cause overheating. Note that hot air exhaust flowing out of the unit might cause shadows on the screen (heat haze phenomenon).

If the projector is enclosed in a space as shown in the following illustration, please insure that the enclosed interior has the same temperature as the outside. High temperatures can lead to failure of the unit.



Please Be Careful During Use

CAUTION

This unit uses a projection lamp, which will get hot when in use. Please refrain from projecting in the following circumstances, otherwise, fire or serious malfunctions may occur:

- Projection while lying on its side.

  Avoid projection if the installation of the unit is done at an excessive angle of more than ± 30 °. This may reduce life of the lamp and cause unwanted color shading.

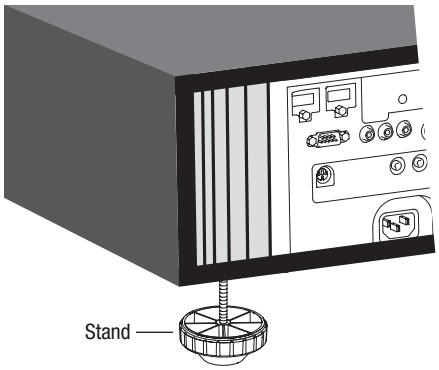
- Avoid projection at any location where the air vents or exhaust ports might get blocked.

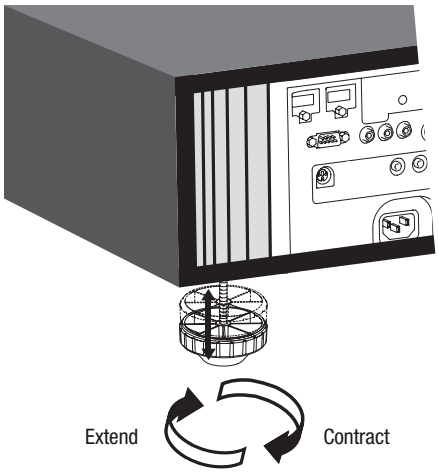
Consult with your Wolf Cinema installer as to the optimum screen surface to use with this projector. Note that certain perforated or woven “acoustic transparent” screens may result in visual interference patterns with the pixel array of the D-ILA light engine components. One way to reduce any unwanted interference pattern is to change the size of the screen, or type of screen surface, so that any interference patterns will be less noticeable.

Inclination Adjustment for this Projector

How to Adjust the Vertical Angle

Height and inclination of the unit (0 ~ 5mm) can be adjusted by rotating its feet. Lift the unit and adjust the four feet.



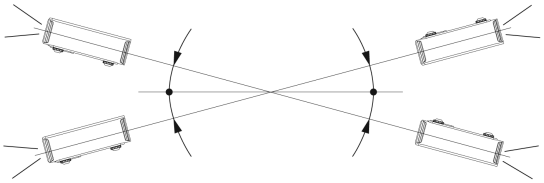


Installing the Projector and Screen

While installing, please place this unit and the screen perpendicular to each other. Failing to do so may increase trapezoidal distortion.

Set Angle

The angle range which can be set for this projector is ±30°.

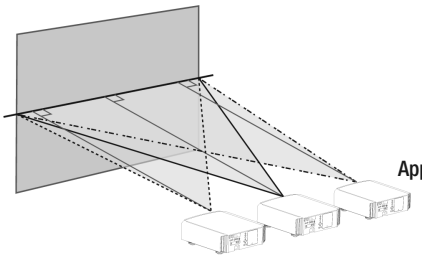


- Malfunctions may occur if the angle is not set within the above range.

Shift

Left/Right Position

* 0% up/down position (center)

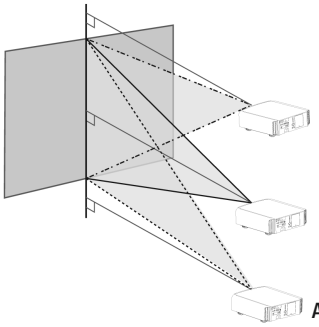


Approximately 34% (maximum) of the projected image

Approximately 34% (maximum) of the projected image

Up/Down Position

* 0% left/right position (center)



Approximately 80% (maximum) of the projected image

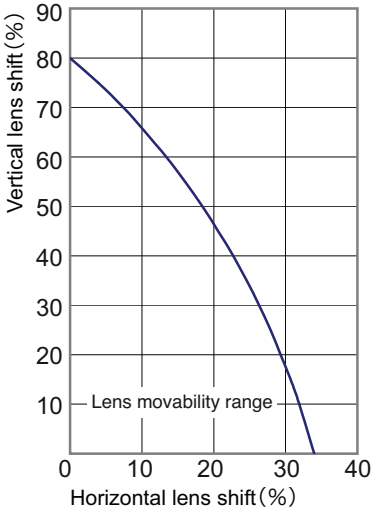
Approximately 80% (maximum) of the projected image

Lens shift correlation chart:

Left-Right Shift(%)	0%	10%	20%	30%	34%
Up-Down Shift (%)	80%	66%	47%	18%	0%

- Maximum Up-Down shift varies with the amount of Left-Right shift. Likewise, maximum Left-Right shift varies with the amount of Up- Down shift.
- The values on the chart are intended to act as a guide. Use them for reference during installation.

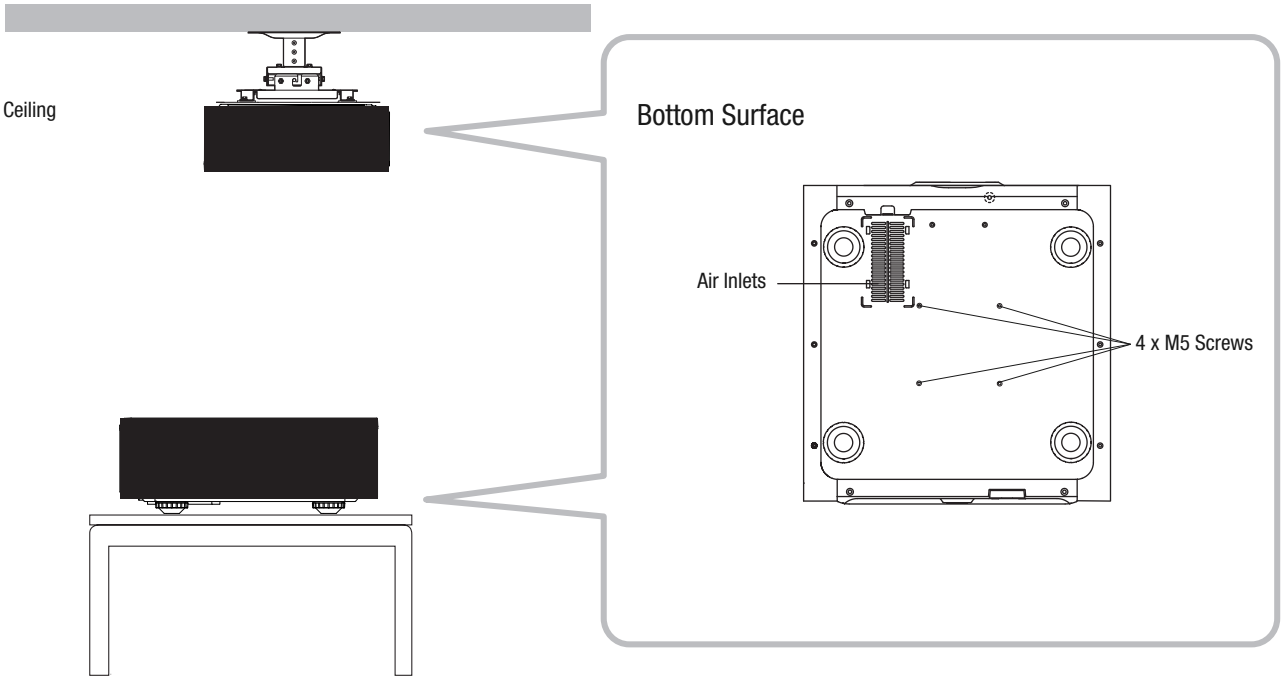
Lens Shift
Movement Range



Projector Mounting

Measures to prevent the unit from toppling or dropping should be used for safety reasons and accident prevention.

When mounting this unit on a pedestal or ceiling, use all the 4 screw holes provided (M5 screws) to mount.



Mounting Precautions

- Special expertise and techniques are required when mounting this unit. Be sure to ask your Wolf Cinema dealer to perform all desired mounting.
- Depth of the screw holes (screw length) is 23 mm. Use screws shorter than 23 mm but longer than 13 mm. Using non-compliant screws may result in malfunctions or cause the unit to drop.
- When mounting to a pedestal, ensure sufficient space (foot height of 10 mm or higher) around the unit so that the air inlets are not blocked.
- Do not tilt this unit more than ±5 degrees from side to side when using.
- Regardless whether the unit is still under warranty, Wolf Cinema is not liable for any product damage caused by improper mounting, or mounting the unit with non-compliant Wolf Cinema ceiling mounting hardware, or when the environment is not suitable for ceiling mounting.
- When hanging from a ceiling, pay attention to the surrounding temperature. Note that during colder seasons and whenever a room heater is in use, temperature around the ceiling will be higher than expected and may damage the projector.

Screen Size and Projection Distance

Determine the distance from the lens to the screen to achieve your desired screen size. This projector features a 2.0x power zoom lens.

Relationship Between Projection Screen Size and Projection Distance

Projection Screen Size (Height, Width) Aspect Ratio 16:9	Approximate Projection Distance W (Wide) to T (Tele)
60" (Approx. 0.7, 1.3m)	Approx.1.78m to Approx.3.66m
70" (Approx.0.9, 1.5m)	Approx.2.09m to Approx.4.28m
80" (Approx.1.0, 1.8m)	Approx.2.40m to Approx.4.89m
90" (Approx.1.1, 2.0m)	Approx.2.70m to Approx.5.51m
100" (Approx.1.2, 2.2m)	Approx.3.01m to Approx.6.13m
110" (Approx.1.4, 2.4m)	Approx.3.31m to Approx.6.75m
120" (Approx.1.5, 2.7m)	Approx.3.62m to Approx.7.36m
130" (Approx.1.6, 2.9m)	Approx.3.92m to Approx.7.98m

Projection Screen Size (Height, Width) Aspect Ratio 16:9	Approximate Projection Distance W (Wide) to T (Tele)
140" (Approx.1.7, 3.1m)	Approx.4.23 m to Approx.8.60m
150" (Approx.1.9, 3.3m)	Approx.4.53m to Approx.9.22m
160" (Approx.2.0, 3.5m)	Approx.4.84m to Approx.9.84m
170" (Approx.2.1, 3.8m)	Approx.5.14m to Approx.10.45m
180" (Approx.2.2, 4.0m)	Approx.5.45m to Approx.11.07m
190" (Approx.2.4, 4.2m)	Approx.5.75m to Approx.11.68m
200" (Approx.2.5, 4.4m)	Approx.6.06m to Approx.12.30m

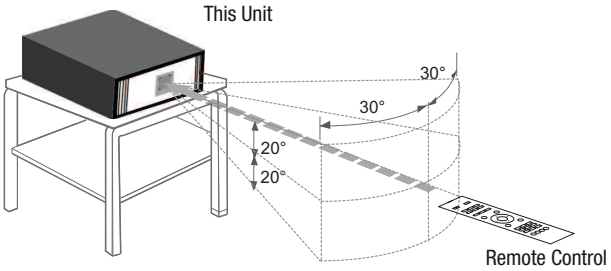
Effective Range of IR Remote Control

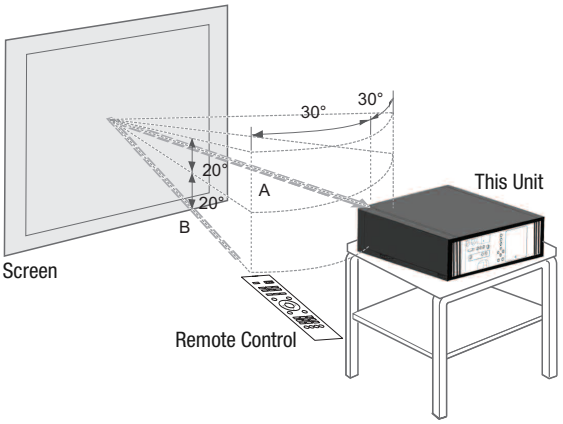
Aim the IR remote control toward the unit.

- When aiming the remote control towards the IR sensor on this unit, maintain a distance to the sensor (in front or at the rear of this projector) within 7 m or appx. 23 feet.
- If the remote control fails to work properly, move closer to this unit.

"Bounce" the IR Signal off a Wall or Screen

- Insure that the total of distance A between this unit and screen and distance B between remote control and screen is within 7 m.or appx. 23 feet.
- As the efficiency of signals reflected from the remote control unit will vary with the type of screen used, operable distance may decrease.



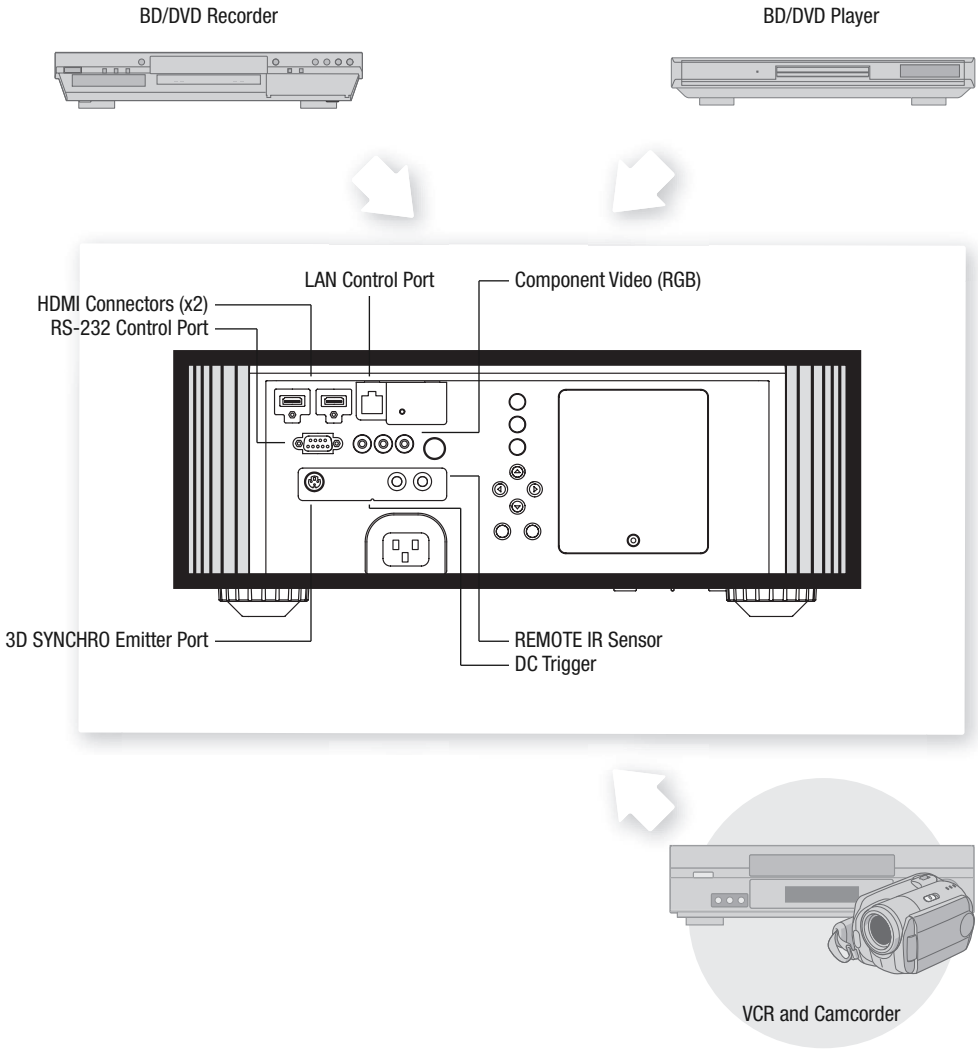


Types of Possible Input Signals (PC Compatible)
HDMI

No.	Designation	Resolution	fh [kHz]	fv [Hz]	dot CLK [MHz]	Total No. of dots [dot]	Total No. of lines [line]	No. of effective dots [dot]	No. of effective lines [line]
1	VGA 60	640 X 480	31.500	60.000	25.200	800	525	640	480
2	VGA 59.94	640 X 480	31.469	59.940	25.175	800	525	640	480
3	SVGA 60	800 X 600	37.879	60.317	40.000	1,056	628	800	600
4	XGA 60	1024 X 768	48.363	60.004	65.000	1,344	806	1,024	768
5	WXGA 60	1280 X 768	47.760	60.000	79.998	1,675	796	1,280	768
6	WXGA +60	1440 X 900	55.919	59.999	106.470	1,904	932	1,440	900
7	SXGA 60	1280 X 1024	63.981	60.020	108.000	1,688	1,066	1,280	1,024
8	WSXGA +60	1680 X 1050	65.222	60.002	147.140	2,256	1,087	1,680	1,050
9	WUXGA 60	1920 X 1200	74.038	59.95	154.000	2,080	1,235	1,920	1,200

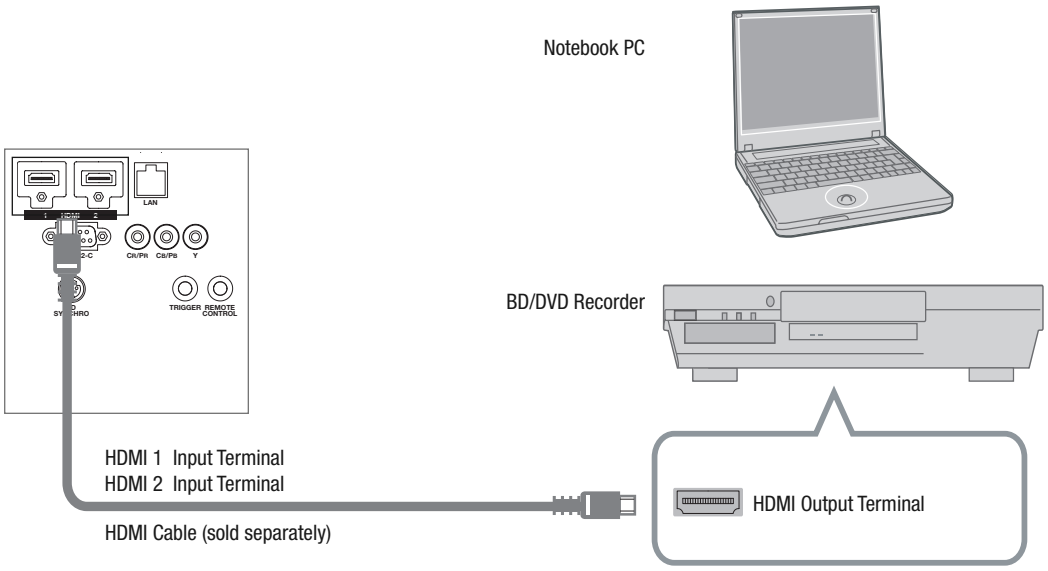
Connecting Video Sources to the Projector

- Do not turn on the AC power until all connections are completed.
- The connection procedures vary according to the device(s) used. For specific details, refer to the instruction manual of the device(s) to be connected.
- This unit is used for image projection only. Connect video source gear to audio processing devices (such as AV receivers, used with speakers) for proper sound output.
- The projector requires appropriate cabling from the video source components.
  High quality cables make for improved video imaging. For HDMI cables (sold separately), only use those that are HDMI-approved.



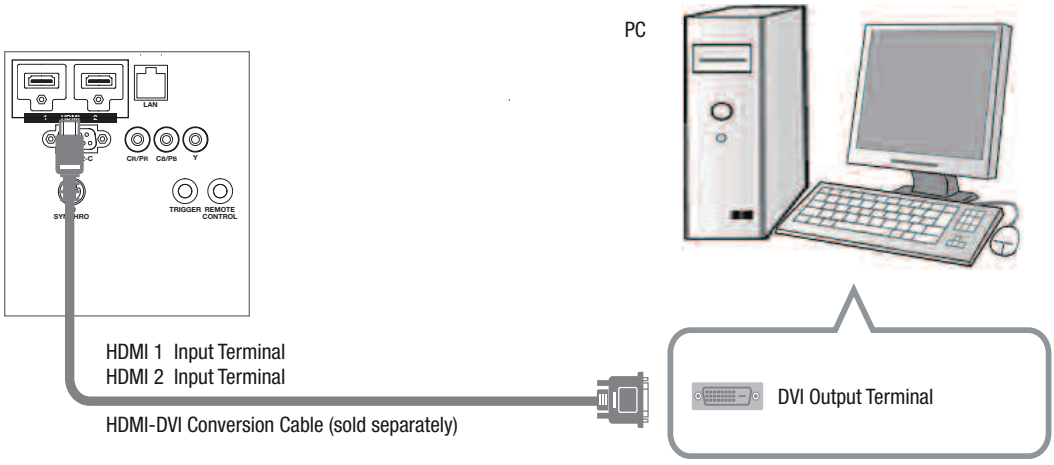
Connecting via HDMI Cable

- For a video signal in compliance with the HDMI standard, a 340MHz cable is recommended. In case a cable is used with a reduced bandwidth of 75MHz, it is recommended to reduce output to 1080i or less from the video source.
- If the video is not displayed properly, try an alternate cable, reduce the length of the HDMI cable, or lower the output resolution of the video source.



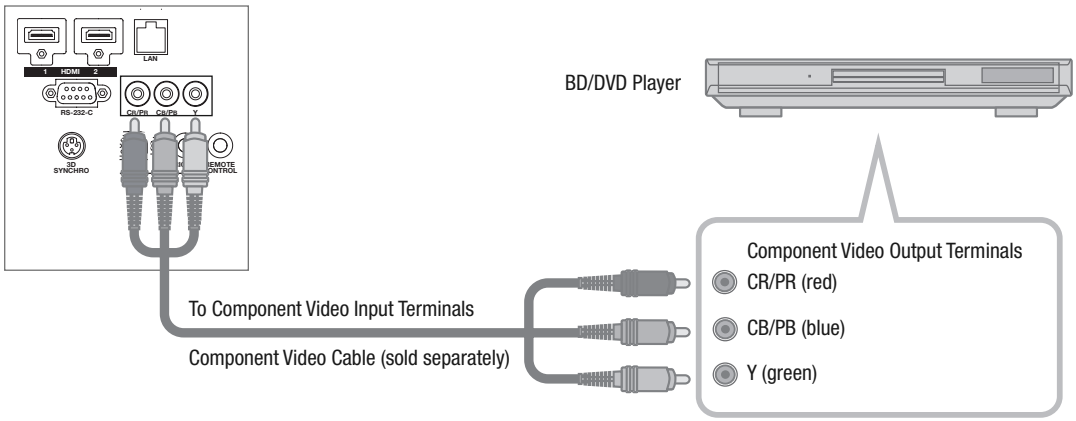
Connecting via HDMI Cable

- If the video is not displayed properly, try an alternate cable, reduce the length of the HDMI cable, or lower the output resolution of the video source.



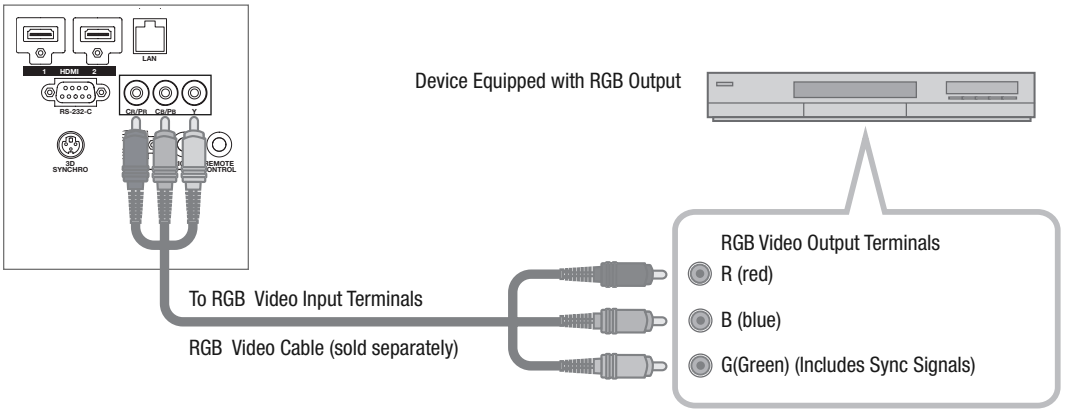
Connecting via Component Video Cable

- Set "COMP." in the setting menu to "Y Pb/Cb Pr/Cr". (Reference page: 54)



Connecting via RGB Video Cable

- Set "COMP." in the setting menu to "RGB". (Reference page: 54)
- For information on compatible input signals, see "Specifications" in this Manual.

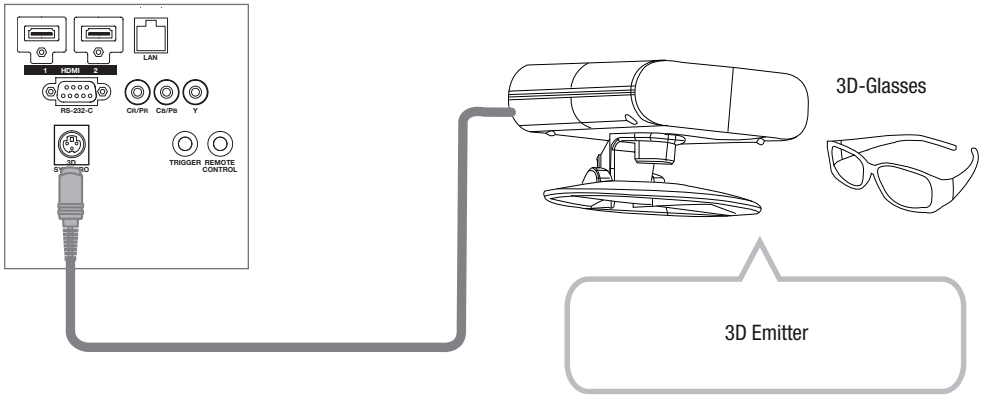


Connecting a 3D Emitter

- 3D emitter: This is a dedicated terminal for an optional 3D signal emitter (sold separately).
- 3D glasses are optional devices, used in conjunction with the 3D emitter.

CAUTION

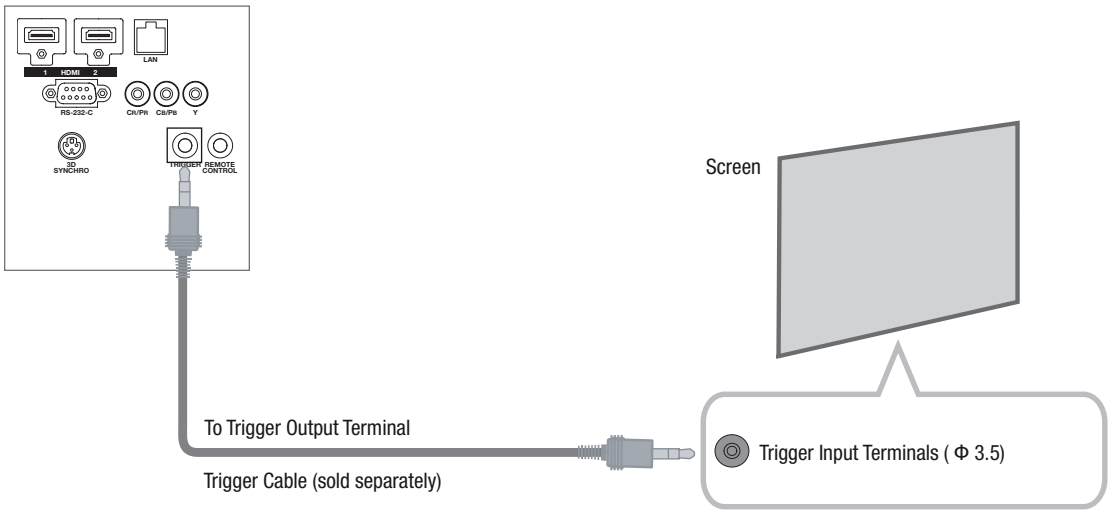
- 3D image quality may vary depending on the ambient room temperature and lamp usage. Stop using the projector in 3D modes if images cannot be projected correctly.
- Before you watch 3D video images, make sure to read “3D Viewing” (Reference pages 59 to 61).



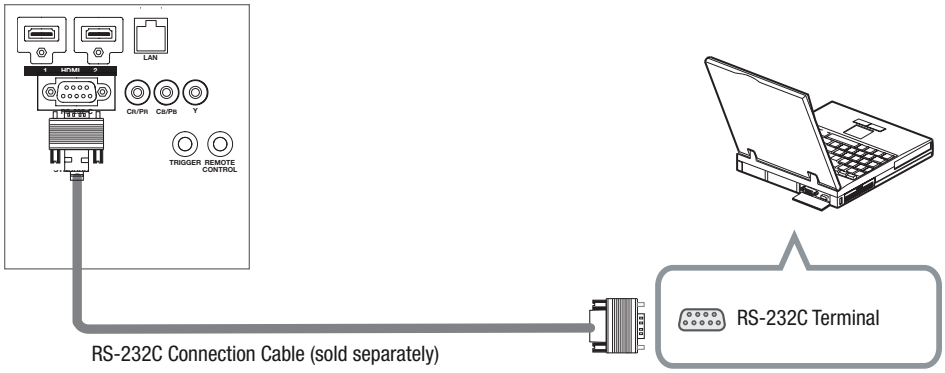
Connecting the Trigger Cable

CAUTION

- Do not supply power to the other devices.
- Do not connect audio terminals of other devices using similar connectors such as headphones etc. Otherwise, this may cause a serious malfunction to the other devices and/or injury.
- Usage beyond the rated values will cause system malfunctions.
- Exercise caution to prevent short circuits, as the trigger terminal outputs a voltage of 12V.
- The default trigger setting is "No output". Please enable it under item "Trigger" of menu [5] "Function" (Reference page: 56).

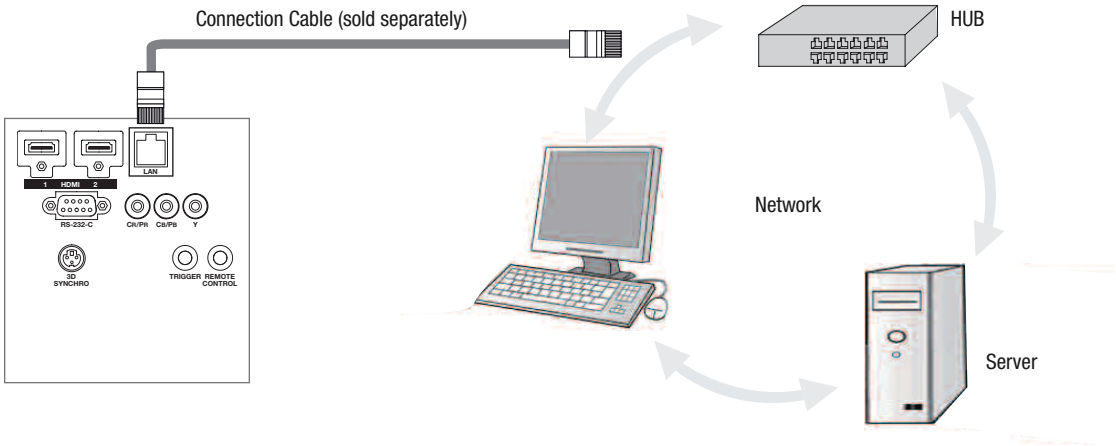


Connecting the RS-232C Control Cable



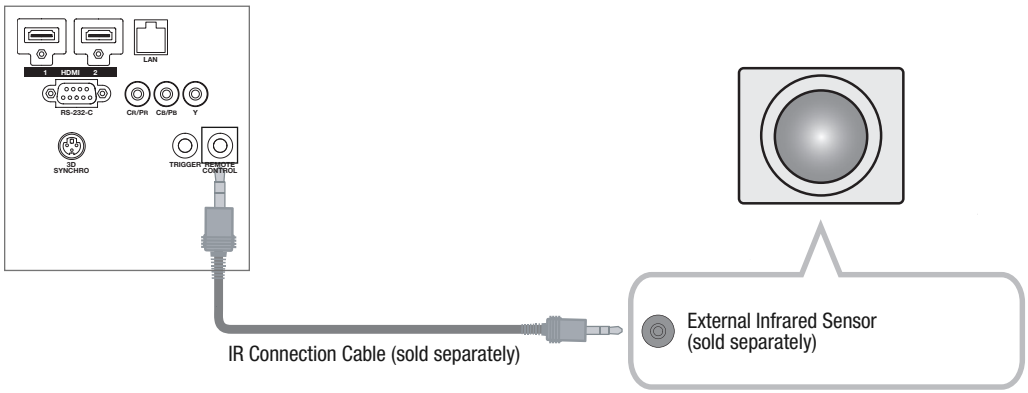
Connecting LAN Terminal

- The LAN network is used to control the unit. It is not used for transmission of the video signal.
- Please contact your Wolf Cinema installer for questions regarding the network connection.



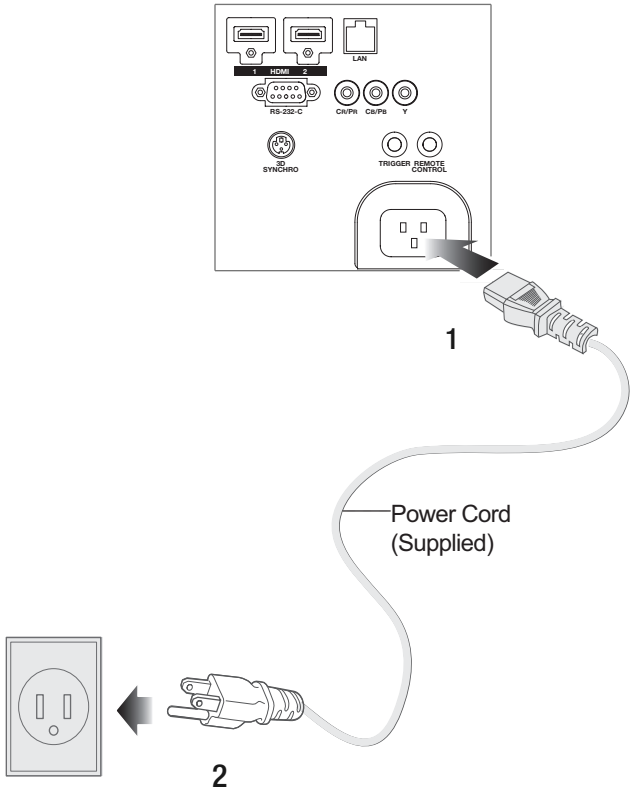
Connecting an EXTERNAL Infrared SENSOR

- For an external infrared sensor and connecting cable, please contact your Wolf Cinema dealer or custom installer.



Connecting the AC Power Cord (provided)

Once you have connected all video source equipment, connect the projector AC power cord.



1 Connect the power cord supplied with the unit power input terminal

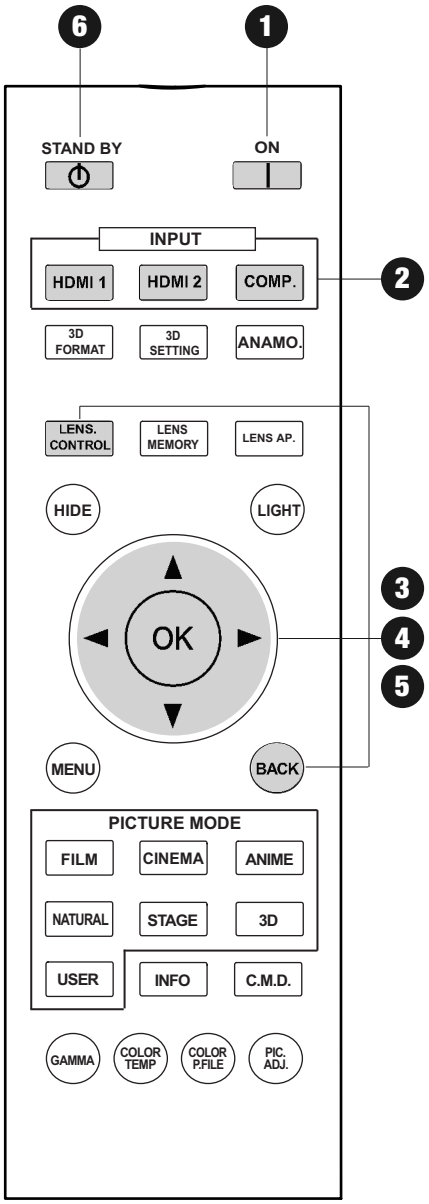
2 Connect to the power outlet

Be Careful to Avoid Fire and Electric Shocks

- Please connect the projector directly into the nearest available AC wall outlet.
- When you are not using the equipment, please unplug the power cord.
- Connect it only with the provided AC power cord.
- Do not use voltage other than the indicated power voltage.
- Do not damage, break or modify the power cord. Note that the power cord may be damaged if you place it under heavy objects, expose it to high heat or pull it too excessively.
- Never handle or unplug the power cord with wet hands.

Basic Operation Procedures

Once you have completed all source component connections, the projector can be used with the following basic steps.



1 Turn On Power

- You can also press the ⏻/I button on the unit to turn on the power.
- Remove the lens cover
  [*] Be sure to remove the lens cover prior to use. Projection with removing the lens cover may cause serious damage to the projector and/or the projector optics.

2 Select Video Input

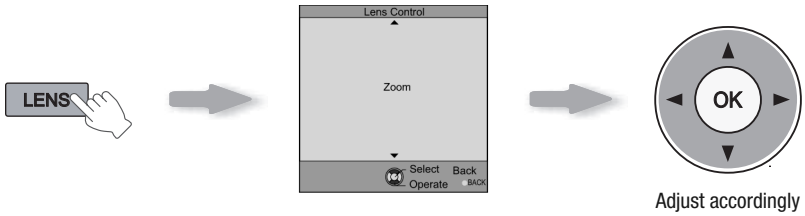
Select Input

- You can also select the desired source by pressing INPUT the input button repeatedly on the unit.

HDMI 1 → HDMI 2 → COMP.

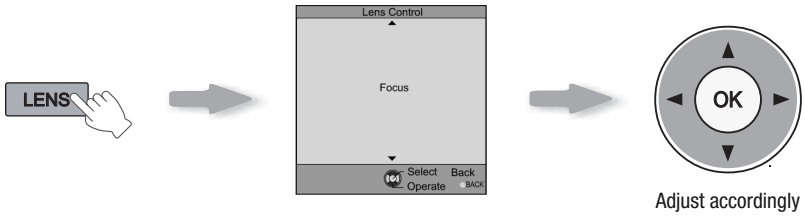
Play Back the Selected Device

3 Adjust Image Zoom (screen size)



Adjust accordingly by pressing the Up/Down buttons

4 Adjust Image Focus (focal point)



Adjust accordingly by pressing the Up/Down buttons

MEMO

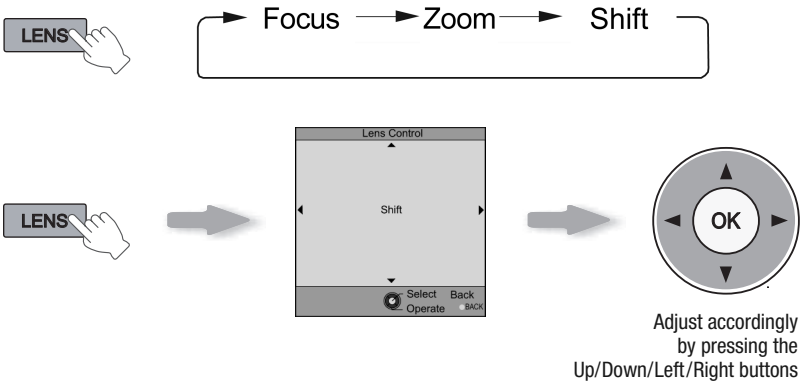
About Cool Down Mode

- The Cool Down mode is a procedure to cool the lamp for approximately 60 seconds after turning off the projector. This function prevents the internal parts of the unit from deformation or damage due to lamp overheating. It also prevents lamp failure and premature shortening of lamp life.
- During Cool Down mode, the [STANDBY/ON] indicator blinks red.
- Once the Cool Down mode is complete, the unit automatically returns to the standby mode.
- DO NOT pull out the AC power plug during Cool Down mode. This may shorten the lamp life and cause major system malfunctions.

5 Adjust Lens Shift (image position)

- After adjusting the image position, it may be necessary to select "Pixel Adjust" from the Settings menu "Installation". (Reference page:55)
- Every time the LENS button is pressed, the adjustment action will be switched between "Focus", "Zoom" and "Shift".

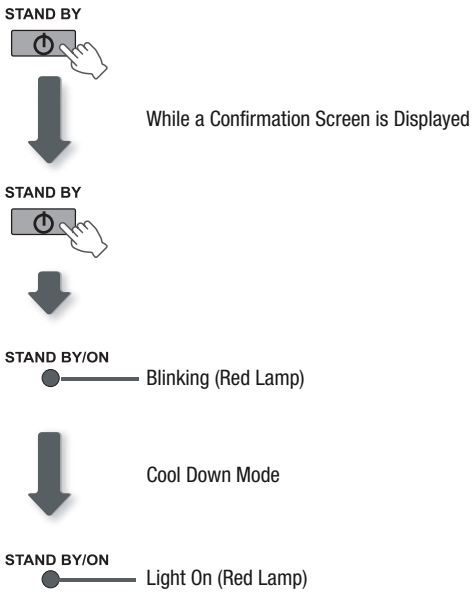
OK It can also be switched with the button.

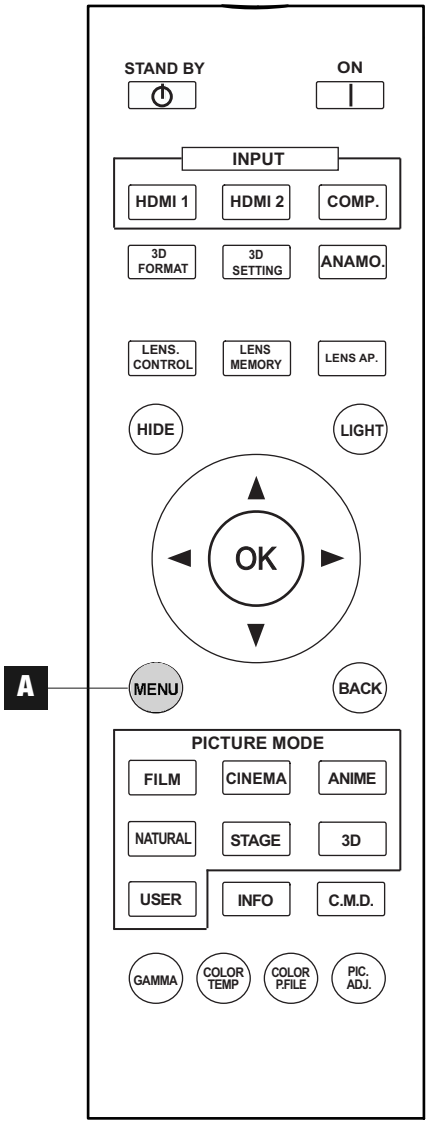


Adjust accordingly by pressing the Up/Down/Left/Right buttons

6 Turn Off Power

- AC power cannot be turned off for approximately 90 seconds once it has been turned on. Begin operations only after 90 seconds time.
- You can also press the ⏻/| button on the unit to turn off AC power.
- Carefully remove the AC power plug if the unit will not be used for a prolonged period of time.





Setting the Screen Size

Image Sizing and Aspect Ratio

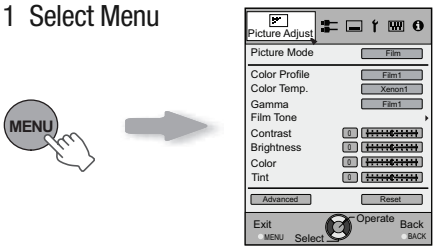
[Refer also to page 36 of the SDC-15 User’s Manual]

You can quickly change the screen size (aspect ratio) of the projected image, or mask image borders as desired if the surrounding edges of the image area are distorted.

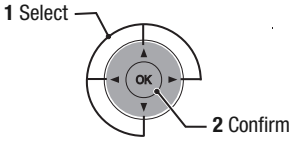
Setting the Screen Size (Aspect Ratio)

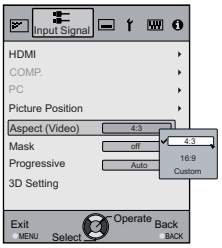
The projected image can be set to a desired screen size and aspect ratio.

1 Select Menu

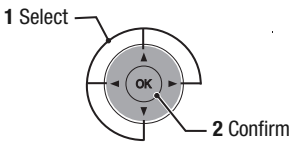


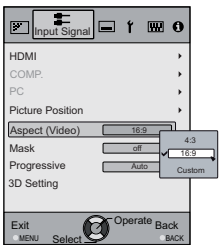
2 Select “Input Signal” ➔ “Aspect [Video]”

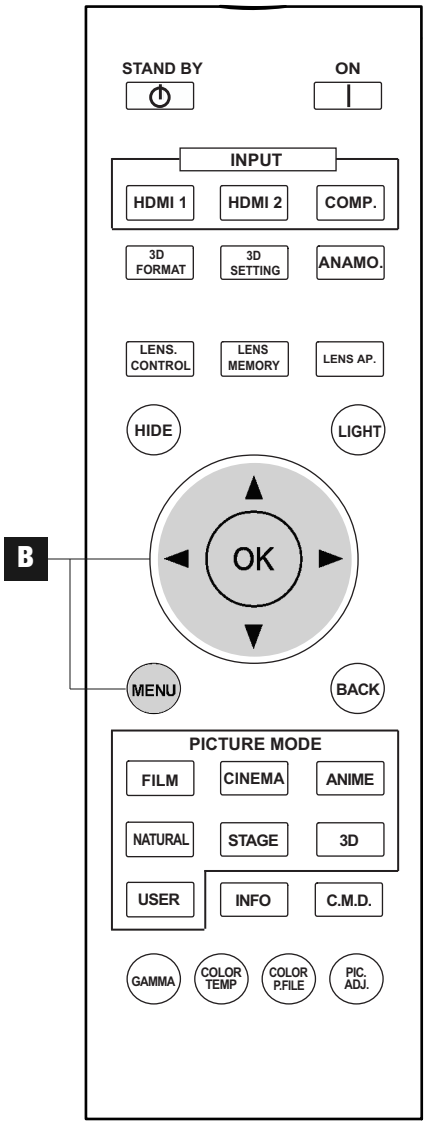




3 Set a Aspect Value





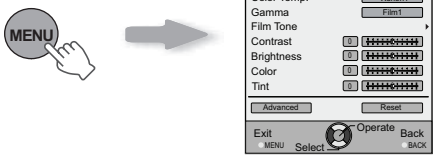


B Masking the Borders of an Image

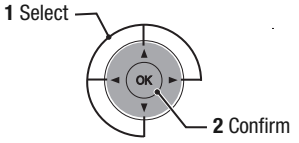
Images where the borders have deteriorated, or image quality reduced can be masked (hidden) from the main body of the projected image.

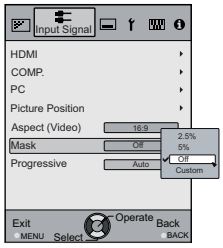
Project an Image

1 Select Menu

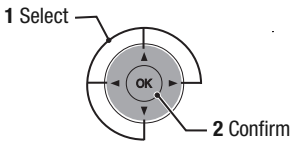


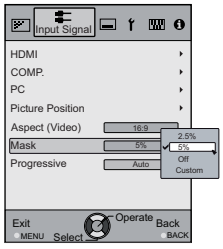
2 Select "Input Signal" ➔ "Mask"





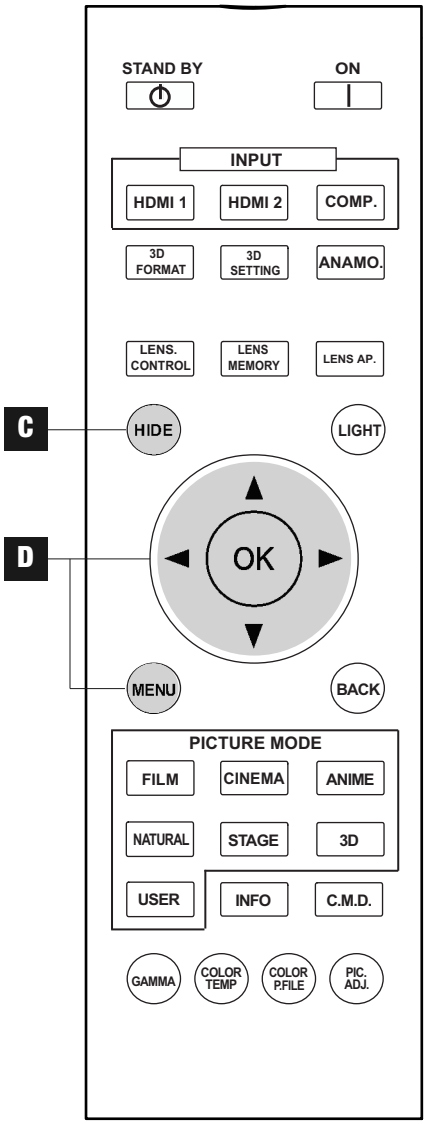
3 Set a Mask Value





Example:
When the "Mask" value is changed from "Off" ➔ "5%"

To End



C Temporary Turning-Off Video

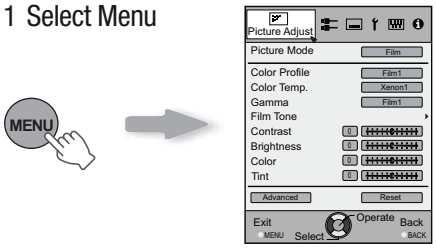
You can temporarily hide the projected image.

- Press the HIDE button again to display the image.
- AC power cannot be turned off when the image is hidden.

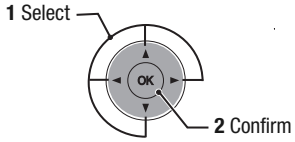
D Keystone Adjustment

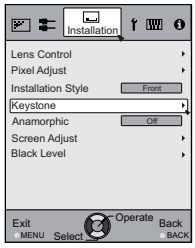
Keystone adjustment may be used if the projector is installed at an angle that is not parallel to the screen (horizontal or vertical).

1 Select Menu



2 Select “Installation” ➔ “Keystone”





3 Adjusts Keystone Correction

If one presses the cursor (vertical and horizontal arrows) in the keystone correction mode, the keystone distortion can be adjusted.

Adjust horizontal distortion with the cursors for left and right.

Adjust vertical distortion with the cursors for up and down.

4 Select Menu to Exit

Note: With 3D input signals, keystone adjustment is not possible. Moreover, if keystone correction is used in 2D viewing, keystone correction is removed when 3D input signals are detected.

Menu

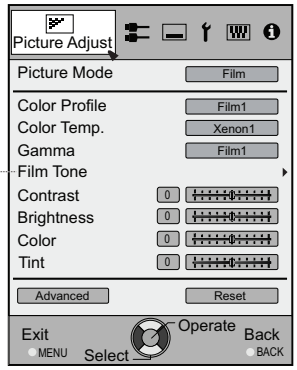
Menu Settings and Adjustments

Structure of the Menu Hierarchy (summary)

The projector's Menu "tree" is organized generally as follows. As this is only a brief outline, certain controls in your projector may be different due to software and/or feature changes; also there will likely be certain menu items which might not be displayed or made readily accessible depending upon model. Contact Wolf Cinema or your local dealer should you have additional questions.

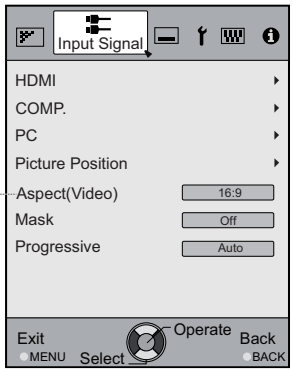
Note: That the values and final settings for your projector may be different than illustrated, due to your particular installation calibration and personalized settings. Contact your Wolf Dealer for additional details.

1 Picture Adjust



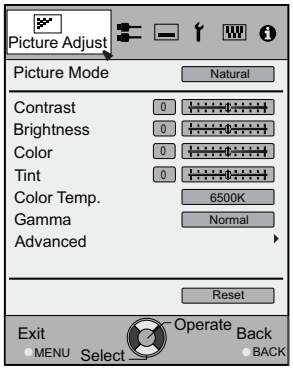
(*) Apart from "Film", "Brightness/darkness correction" is displayed in the "Picture Mode".

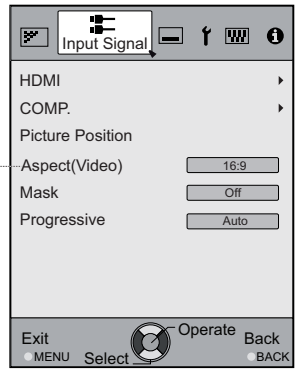
2 Input Signal



(*) When there is a PC signal input, "Aspect (PC)" is displayed.

Continue to the Next





(*) When there is a PC signal input, "Aspect (PC)" is displayed.

To "**1** Layers and organization of the picture quality submenu"

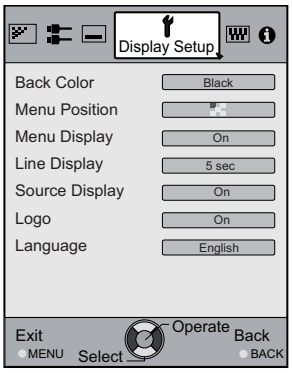
To "**2** Layers and organization of the input signal submenu"

3 Installation

Continued from the Previous Page

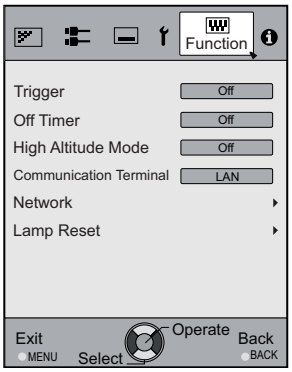
To “**3** Layers and organization of the installation submenu”

4 Display Setup

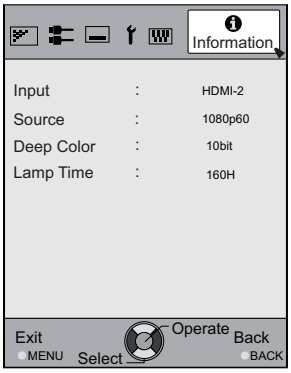


Continue to the Next

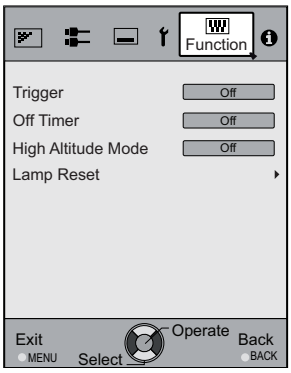
5 Function

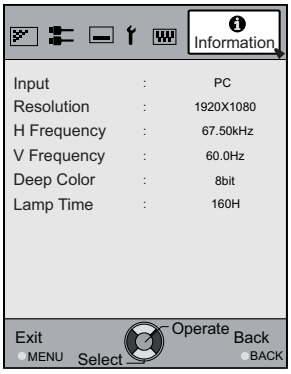


6 Information



Continued from the Previous Page



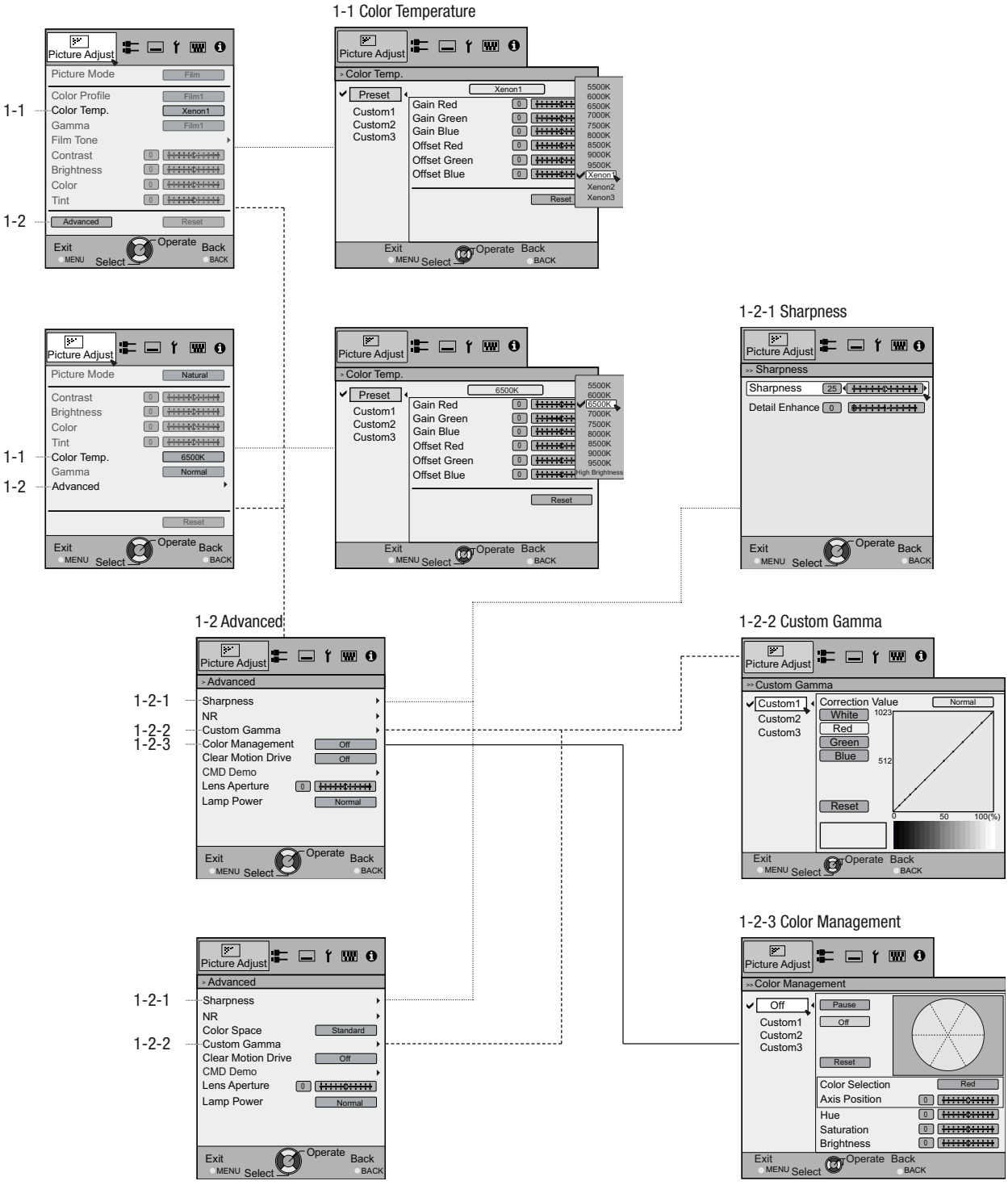


For PC signal input

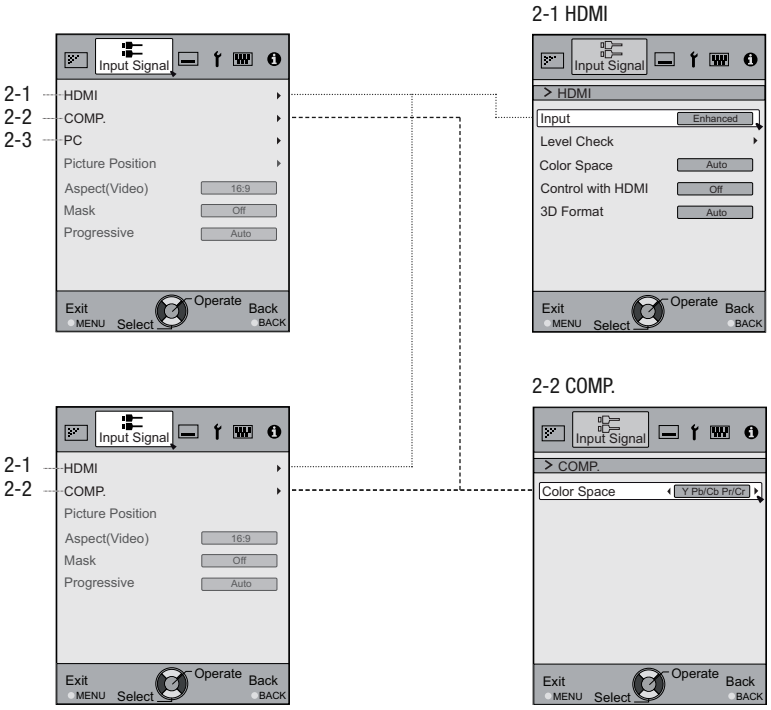
To "**5** Layers and organization of the function submenu"

1 Layers and Organization of the Picture Adjust Submenus

1 Picture Adjust

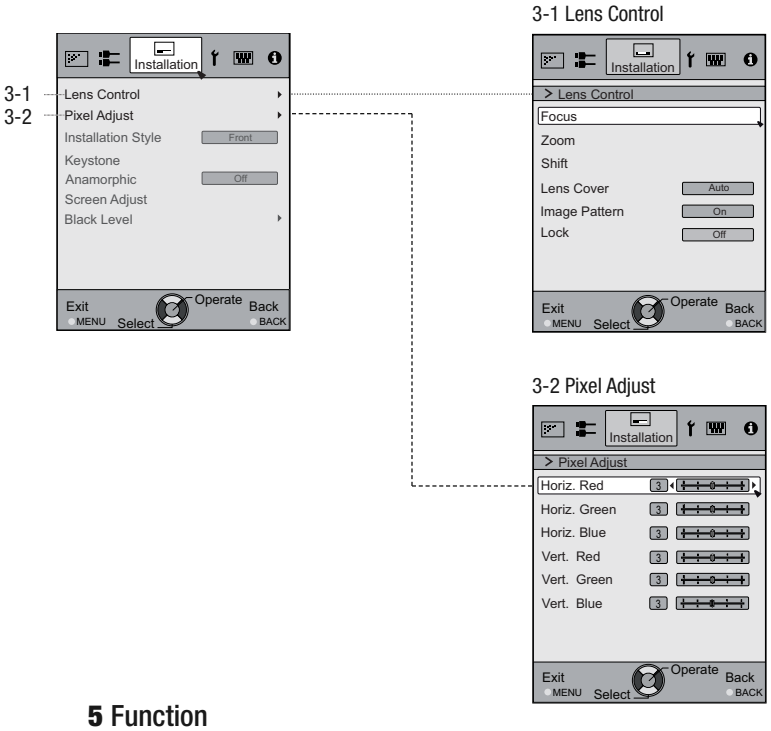


2 Layers and Organization of the Input Signal Submenu

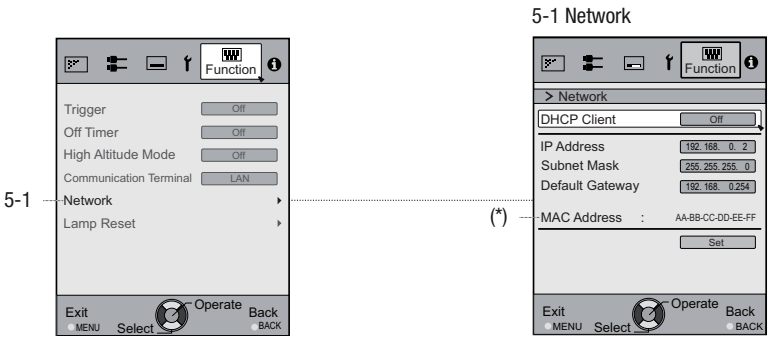


Layers and organization of the submenus **3** installation and **5** function

3 Installation



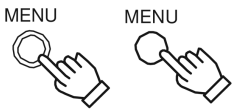
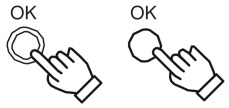
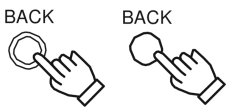
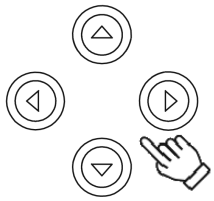
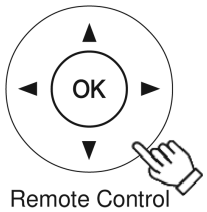
5 Function

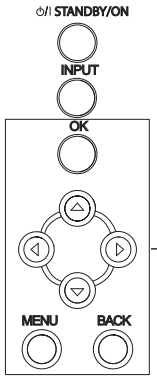


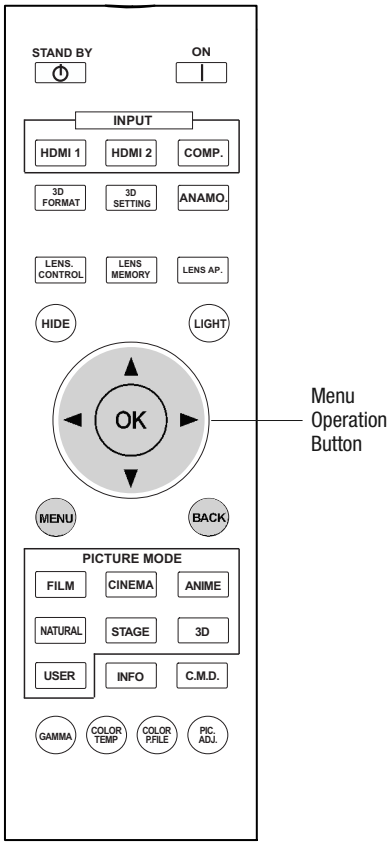
(*) MAC address is different depending on the respective equipment.

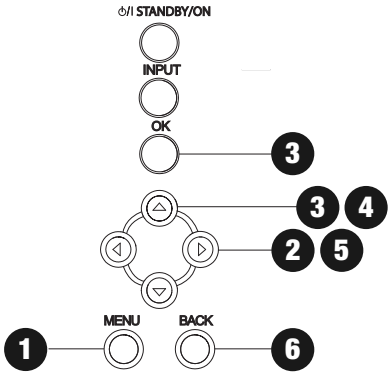
Menu Button

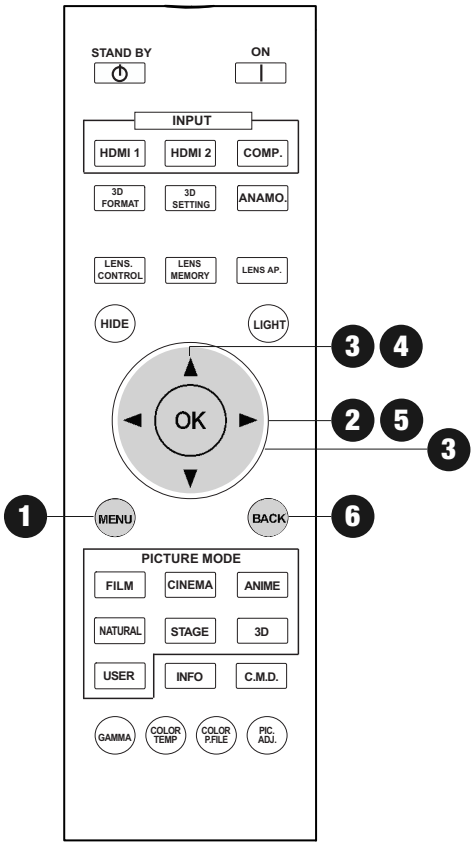
Operate the menu by use of the buttons on the projector body or on the remote control.

Button		Function
Projector	IR Remote	
		**Menu is Displayed** While the menu is displayed, the menu screen is turned off.
		While showing "Main menu" (Layer 1) selected items are confirmed, and "Submenus" (Layer 2) will be displayed. When a submenu is displayed, press OK, and the displayed items in the selection are moved to the "Settings screen" (Layer 3).
		**Return to the Previous Menu Screen** The menu screen is turned off when the main menu screen is shown.
 Projector  Remote Control		**Displaying the Main Menu and the Submenu** ◄/►: Select an adjustment item in the menu. Set the setting value of the selected adjustment item. The adjusted setting value is immediately. ▼/▲: Selection of a displayed sub-menu item. Selection of an item in the menu.





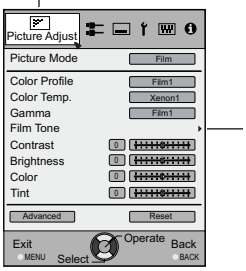




Menu Operation Procedures

1 Press MENU

The main menu is displayed on the screen.



The submenu items, which are currently selected, are shown. Currently selected menu items are highlighted and the icon is colored in orange.

The submenu items, which are currently selected, are displayed.

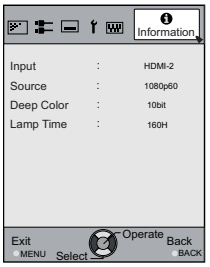
Example: Picture Adjust

2 Press Cursor (◄/►) to Select a Submenu

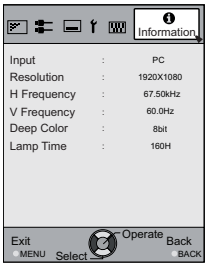
- A submenu (picture adjust, input signal, installation, display setup, function, information) may be selected:
- If one selects “Information”, information about the currently selected video input and PC input are displayed at the bottom of the menu.

3 Press OK or cursor (▼/▲)

- Sub-menu item is displayed.
- Sub-menu items vary depending on the input signal and the picture mode. See “Content menu” on the next page for more details.



Example:
Input signals other than PC signals



Example:
When inputting PC signals

4 Press the Cursor (▼/▲) to Select the Items to Adjust

If the name of a submenu item is dimmed, it cannot be selected.

5 Press Cursor (◄/►) to Change Settings

6 After Adjusting, Press BACK

Every time it is pressed, you will return to the previous menu screen.

7 Repeat Steps 6-2 to Adjust Other Items

After all adjustments are done, press MENU, and the menu disappears from the screen.

Menu Item Descriptions

All numbers for the items within [ ] are default settings.

- It is possible to operate all items displayed in the menu display by pressing OK/BACK or the cursor (up, down, left, right arrows).
- Displayed items vary depending on the selected item in the menu and type of input signal (or absence of any signal).

1 Picture Adjust

Picture Mode	Please refer to the description of each mode, and then use the mode best suited for you. Moreover, it is possible to adjust the image quality by selecting User 1, 2, and 3. Settings: Film, Cinema, Animation, Natural, Stage, 3D, User 1-5. [Natural]
Film	This image setting is calibrated to best suit film, and may be thus used for watching movies in general.
Cinema	This image setting is based on the DCI standard and brings to life brightly colored pictures. Suitable for viewing action movies and brightly-colored images. [DCI: Shorthand for Digital Cinema Initiative].
Animation	An image setting calibrated for animation films.
Natural	An image setting featuring natural colors/tonality. Suitable for viewing a wide variety of video material [ex: TV dramas/serials].
Stage	This image setting is best for watching live events, concerts and theater presentations.
3D	This is the image setting for watching 3D movies.
User 1-5	User settings 1-5 are available for individual calibration, as desired. Last adjustments made are saved into memory. User 1 is hand calibrated by Wolf factory technicians and may be adjusted to compensate to your specific screen type.
Color Profile	These are adjustable color profiles to best suit the source material. Depending on the settings, the items that can be changed in the "Picture Mode" will vary. (See Table 1) The color profile is typically selected based on preferences and video content. (*) If you select "Off", it is impossible to perform any picture adjust for other color temp. other than "Lamp Power" and "Lens Aperture" under "Advanced", and also "Gamma" or "Sharpness." Settings: Film 1, Film 2, Cinema 1, Cinema 2, Standard, Anime 1, Anime 2, Video, Vivid, Adobe, Stage, 3D, Off. Depending on the picture mode, the default values will change. [See table 1]
Film 1	This is a profile that comes closest to the color space of a Xenon lamp, with films made under the Eastman Kodak Company film process.
Film 2	This is a profile that comes closest to the color space of a Xenon lamp, with films made under the FUJIFILM Corporation process.
Cinema 1	This is a profile that resembles the color space of the DCI film standards.
Cinema 2	This is a profile that resembles the color space of HDTV.
Standard	This profile closely represents the film-specific color space of HDTV content. [HDTV: Shorthand for High Definition Television].
Anime 1	This is a profile suitable for CG animation, which can be often found in Hollywood- produced animated TV or film series. [This profile is intended for content with bright colors].
Anime 2	This is a profile suitable for animation cel-style animation series, which are more common in Japan. [This profile is intended for animation with more dim colors].
Video	This profile is suitable for general TV / drama / sports viewing.
Vivid	This is a profile with richer sense of color, often suitable for video games.
Adobe	This is the color profile best suited for Adobe* RGB. (*) Adobe, and the Adobe logo are registered trademarks or trademarks of Adobe Systems, as Incorporated in the United States and/or other countries.
Stage	This profile is suitable for live music, orchestral and opera concerts, theater, etc.
3D	This is the most suitable profile when using 3D-glasses.
Off	This mode does not enable color management adjustment.

[Table 1] The Settings and Default Values of the Picture Mode Color Profiles

	Picture Mode						
	Film	Cinema	Anime	Natural	Stage	3D	User 1-5
Color Profile	Film 1	Cinema 1	Anime 1	Video	Stage	3D	Everything is displayed except for Film 1 and Film 2
	Film 2	Cinema 2	Anime 2	Vivid	Standard	Standard	
		Standard	Standard	Adobe		Vivid	
				Standard			

This is the default value according to the picture mode.

Color Temp.	Adjust color temperature. To "[1-1] Color Temp." of the submenu	
Gamma	Adjust gamma curve. Set to your desired preference. Settings: Normal, A (3D), B (3D), Film 1, Film 2, Film 3 Film 4, A, B, C, D, Custom 1, Custom 2, Custom 3	[Normal]
Normal	The typically recommended setting. (*) It is not possible to set it when the "Picture Mode" is set to "3D". (*) It is not possible to set it when the "Picture Mode" is set to "Film".	
	A (3D), B (3D) can only be set, if the "Picture Mode" is "3D".	
A (3D)	This is the normal gamma curve for 3D.	
B (3D)	A (3D) will be brighter.	
	Film 1, 2, 3, 4 can only be set if the "Picture Mode" is set to "Film".	
Film 1	This is the gamma curve that approximates the characteristics of an Eastman Kodak Company film process.	
Film 2	This is the gamma curve that approximate the characteristics of a film made by the FUJIFILM Corporation process.	
Film 3	This is a gamma curve that emphasizes tonality in the gamma of Film 1.	
Film 4	This is a gamma curve that emphasizes contrast in the gamma of Film 2.	
	A, B, C, D cannot be set if the "Picture Mode" is "3D". (*) It is not possible to set it when the "Picture Mode" is set to "Film".	
A	This is a gamma curve focused on tonality.	
B	This is a gamma curve for film's unique S curve.	
C	This is a gamma curve that – in regard to the gamma of B – emphasizes contrast.	
D	For normal, this is a gamma curve where the intermediate gradations look brighter.	
Custom 1	Custom 1, 2, 3 cannot be set if the "Picture Mode" is "3D".	
Custom 2	Under submenu "[1-2-2] Custom Gamma", it is possible to change the gamma curve and save it.	
Custom 3	The initial value of Custom 1, 2, and 3 is the same as for "Normal".	
Film Tone	You can reproduce the intensity of the exposure image. (*) This function can be set only if the "Picture Mode" is set to "Film".	
White	Settings: (The more under-exposure, the darker) -16 to 16 (the more over-exposure, the brighter)	[0]
Red	Setting: (under-exposure to for red), -16 to 16 (over-exposure for red)	[0]
Green	Settings: (under-exposure for green) -16 to 16 (over-exposure for green)	[0]
Blue	Settings: (under-exposure for blue) -16 to 16 (over-exposure for blue)	[0]
Dark/Bright Level	Compensates for excessive darkness / brightness of an area. (*) It is possible to set it unless the "Picture Mode" is set to "Film".	
Dark Level	Values: (makes dark areas darker) -7 to 7 (brightens dark areas)	[0]
Bright Level	Settings: (darkens bright areas) -7 to 7 (makes bright areas brighter)	[0]

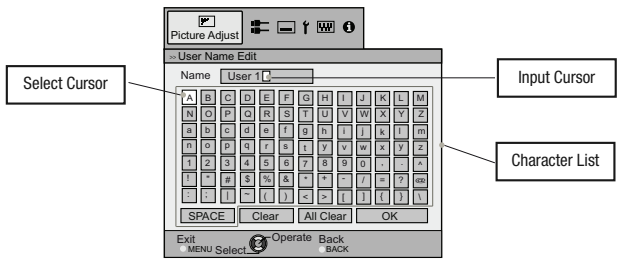
Contrast	Adjusts the contrast (white level) of the image. Settings: (darker) -50 to 50 (whiter)	
Brightness	Adjusts the brightness (black level) of the image. Settings: (dark) -50 to 50 (bright)	
Color	Adjusts the color intensity of the image. Settings: (less saturated), -50 to 50 (saturated)	
Tint	Adjusts the image tint (hue) of the image. Settings: (reddish) -50 to 50 (greenish)	
Advanced	Functions such as contour correction, custom gamma and color management can be set to sub-menu "[1-2] Advanced".	
Reset	Resets all settings to the factory default settings.	

1-1 Color

Temp.	Adjusts the color temp. of the video images. Adjust to your preference. (*) For this setting, the setting choices can vary in accordance with the "Picture Mode". Settings: (Preset value), Xenon 1, Xenon 2, High Bright, Custom 1, Custom 2, Custom 3	[Preset value]
(Preset value)	The color temp. can be adjusted within the range of 5500K to 9500K in steps of 500K. A value of 6500K produces the most balanced video image. Settings: Between (reddish) 5500-9500 (bluish) in steps of 500K	[6500]
Xenon 1 Xenon 2	This control reproduces the color temperature characteristics of a xenon lamp as used in cinemas. A light source color that is employed by film projectors. A light source color employed by a digital cinema projector.	
Offset	Xenon 1, Xenon 2 can each be adjusted based on the "color" in black of the video images.	
Red	Settings: (Weak red) -50 to 50 (strong red)	[0]
Green	Settings: (Weak green), -50 to 50 (strong green)	[0]
Blue	Settings: (Weak blue) -50 to 50 (strong blue)	[0]
High Bright	Select this to get the brightest image possible.	
Custom 1 Custom 2 Custom 3	You can adjust the color temp. and recall each in Custom 1, 2, and 3. Please save your preferred adjustment values here.	
Gain	Adjustments to the brighter areas (ie white) of the video image, for optimum color.	
Red	Settings: (Weak red) -255 to 0 (strong red)	[0]
Green	Settings: (Weak green) -255 to 0 (strong green)	[0]
Blue	Settings: (Weak blue) -255 to 0 (strong blue)	[0]
Offset	Adjustments to the darker areas (ie black) of the video image, for optimum color.	
Red	Settings: (Weak red) -50 to 50 (strong red)	[0]
Green	Settings: (Weak green) -50 to 50 (strong green)	[0]
Blue	Settings: (Weak blue) -50 to 50 (strong blue)	[0]

1-2 Advanced

Sharpness		Adjust sharpness and detail enhancement via “[1-2-1] Sharpness” of the submenu.
NR		Reduces unwanted noise in the video image. Adjust to preference.
	RNR	Adjusts the intensity of random noise elimination of the image. Values: (Low) 0 to16 (strong) [0]
	MNR	Adjusts the intensity of mosquito noise elimination of the image. (*) It is not possible to set when the “Picture Mode” is set to “3D”. Moreover, it is not possible to set it on certain HD signals. Values: (Low) 0 to16 (strong) [0]
	BNR	Reduces the block noise of the video images. (*) It is not possible to set when the “Picture Mode” is set to “3D”. Moreover, it is not possible to set it on certain HD signals. Settings: On, Off [Off]
Color Space		You can switch the color space as displayed by the projector. Settings: Standard, Wide 1, Wide 2
	Standard Wide 1 Wide 2	Equivalent to the HDTV color space. Equivalent to the color space of the DCI standard. A color space that is broader than Wide1
Custom Gamma		It is possible to create and save custom gamma curves. Adjust to your preference. To “[1-2-2] Custom Gamma” of the submenu.
User Name Edit		You can rename any Picture Mode memory bank, as below. The total number of characters is limited to 10, and may include capital and lower case letters, numbers and symbols.
	User 1-5	Select the user memory name you wish to edit. Press the [OK] button on the main unit or the remote control to confirm and enter the edit mode. (*) Press the [BACK] key on the main unit or remote control at anytime to exit the edit mode. Doing this will delete your modifications.
	Input Cursor	This highlights the edit area. The cursor will move automatically as you enter characters.
	Select Cursor	Select and move the cursor using the [UP], [DOWN], [LEFT] and [RIGHT] keys on the projector or on the remote control. Select the letter to enter and press the [OK] button. Make the next letter, number or symbol selection and press [OK].
	Clear	Use this to delete a character. Move the select cursor to the desired location and press the [OK] button. This will delete the character in the Name field.
	All Clear	Use this to delete ALL characters. Move the select cursor to the desired location and press the [OK] button. A delete confirmation message will appear.
	OK	Use this function to save the entered name information. Select [OK] and a saved confirmation message will appear.



Clear Motion Drive	This setting improves scenes with fast motion, helping to produce clearer images with little residual image retention. For PC and 3D signals, the "Clear motion Drive" cannot be used. On occasions the image may appear distorted in some scenes, or light and dark flashes might occur. In this case, please choose "Off", and then a setting of your choice. Settings: Off, Mode 1, Mode 2, Mode 3, Mode 4, Inverse Telecine	[Off]
Off	Off	
Mode 1	Black insertion weak	
Mode 2	Black interpolation strong	
Mode 3	Interpolation weak	
Mode 4	Interpolation strong	
Inverse Telecine	With 60i/60p signals, e.g of TV-broadcast and DVDs, original 24 frame video image footage is changed to a 24 frame display. (*) 24p will not function.	
CMD Demo	It is possible to visually confirm the effects of the settings in Mode 3 and Mode 4 of the Clear Motion Drive. Upon pressing the button "OK", it will be displayed on all sides of a screen in the center split into two parts. Finally, it will turn to "Off". It cannot be set for PC and 3D signals. Settings: Left -> right -> top -> Bottom -> Off (changed with "OK" button)	[Off]
Left	The left screen displays a demonstration of the Clear motion drive.	
Right	The right screen displays a demonstration of the Clear motion drive.	
Top	The upper screen displays a demo of the Clear motion drive.	
Bottom	The screen below displays a demo of the Clear motion drive.	
Off	The Demo of the Clear motion drive is turned off.	
Lens Aperture	Adjusts the optical iris and aperture setting. A setting of 0 means fully opened. Settings: (Dark) -15 to 0 (bright)	
Lamp Power	Adjust the brightness of the lamp. (*) If continually used in the "High" mode, the lamp will dim sooner and will likely require earlier replacement. (*) For about 60 seconds after the lamp is lit, the lamp cannot be switched off. Settings: Normal, High	[Normal]
Normal	Normally this setting is optimal (160W drive).	
High	Commonly used in a brighter lit rooms, this setting may be chosen. (220W drive)	[0]

1-2-1 Sharpness

Sharpness	Emphasizes the outline sharpness of all images. Adjust to your preference. Values: 0 to 50 (sharper)
Detail Enhance	This control makes minute details of the image “stand out.” Adjust to your preference. Values: 0 to 50 (strong)

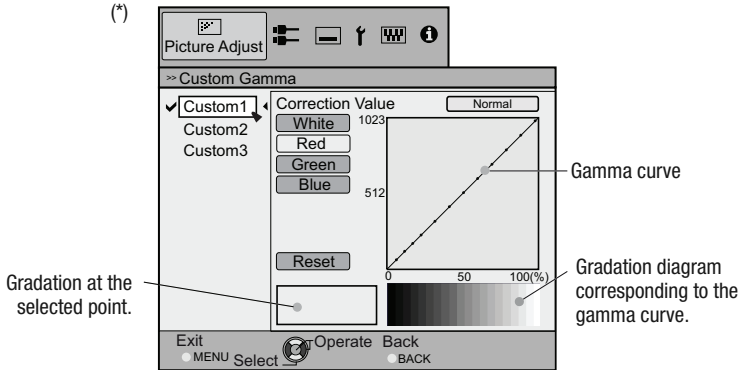
1-2-2 Custom Gamma

Custom 1~3

[1] Create custom gamma curves and save in the Custom 1, 2, and 3 memory settings.
Please adjust to your preference.
(*) Initial values of Custom 1, 2, and 3 are the same as for “Normal”.
(*) Please refer to the figure at the bottom for adjustment.
(*) It is recommended that you read “Gamma Curve” (page reference: 56) for hints about adjustment.

Correction Value	You can choose to add the underlying gamma curve adjustment. (*) Can choose any setting, as the default gamma curve will always appear linear. Settings: Normal, A, B, C, D (brightens in particular dark to intermediate parts) 1.8 to 2.6 (darkens in particular dark to intermediate parts) in the range of values with increments of 0.1 [Normal]
Gamma Adjustment	The gamma curve for “green” is being displayed as being representative. If “white”, “red,” “green” or “blue” are selected, the corresponding color curves are displayed. Place the cursor on a gamma curve with 12 points with the buttons for left and right, and then use the buttons for up and down buttons to move those points up or down.
White	Red, green and blue can be adjusted at the same time.
Red	Adjust only the gamma curve for red.
Green	Adjust only the gamma curve for green.
Blue	Adjust only the gamma curve for blue.
Reset	The same data as for the "Normal" modes are used when resetting custom gamma. (*) When you exit the adjustment menu of Custom Gamma, please save the adjustment values. You can return to the original data, which should be saved.

(*)



2 Input Signal

HDMI		Select the available HDMI input signal via the submenu "[2-1] HDMI".
COMP.		Component video input selection via the submenu "[2-2] COMP.".
Picture Position		An adjustment may be enabled if the edges of the picture are partially missing due to the timing of horizontal and vertical synchronization signals. The value of the picture position depends on the input signal. (*) Depending on the input signal, only partial video images can be displayed. (*) When there is a 3D signal, this adjustment is not possible.
	Horiz.	This aligns the horizontal position of the image.
	Vert.	This aligns the vertical position of the image.
Aspect (Video)		(*) It is displayed when there is a video signal detected. (*) If set to3D, ratio is fixed to 16:9. Three aspect ratio settings: 4:3, 16:9, Zoom [16:9]
	4:3	Sets the screen size of the image to 4:3. For HD signals, left and right sides are reduced.
	16:9	Sets the screen size of the video image screen to 16:9. For SD signals left and right sides are expanded.
	Zoom	Zooms the video images. (*) For HD signals, this cannot be used.
Aspect (PC)		Sets the video image screen size when a PC video signal is detected. (*) Is displayed when there is a PC signal input. Settings: Auto, 1:1, Full [Auto]
	Auto	Positions the video image screen in the center of the display range and fills the screen. Depending on the size of the video screen, left and right black borders will be drawn.
	Just	The video image screen size is displayed with the size of the input image. Depending on the input video image, the screen will become smaller or part of the input image off the screen may be cut off.
	Full	It does not retain the aspect ratio of the video image and fills the entire screen.
Mask		This hides the upper, lower, left and right borders of the screen with a black mask. Can be individually adjusted vertically and horizontally. Adjust to your preference. Setting: Off, 2.5%, 5%, Custom [Off]
	Off	Not masked.
	2.5%	Compared with the original video image, approximately 2.5% around the image may be masked.
	5%	Compared with the original video image, approximately 5% around the image may be masked.
	Custom	
	Left	Compared with the original video image, approximately 5% of the image is masked on the left side. Settings: 0 ~ 5% [0]
	Right	Compared with the original video image, approximately 5% of the image is masked on the right side. Settings: 0 ~ 5% [0]
	Top	Compared with the original video image, approximately 5% of the image is masked at the upper side. Settings: 0 ~ 5% [0]
	Bottom	Compared with the original video image, approximately 5% of the image is masked at the bottom side. Settings: 0 ~ 5% [0]
Progressive		Interlaced signals (480i/576i/1080i) are converted to progressive signals. Interpolates interlaced signal video images with video images from the surrounding fields. Please set to your preference. Settings: Auto, Off [Auto]
	Auto	This detects 24p video content, as seen in film. This also detects interlaced signals from the original video material or if they are the product of signal conversion and are interpolated accordingly.
	Off	The interpolation of video images as interlaced video signals, e.g. video material.

2-1 HDMI

Input	Sets the dynamic range of the input video images (scale). Dark and bright areas, which are not matched correctly, might get brighter or darker. If you are unsure of the input signal dynamic range, please review “Level Check”. Settings: Standard, Enhance, Super White	[Standard]
Standard	This is most commonly used when the input signal is standard video, and the resulting dynamic range levels fall between 16-235.	
Enhanced	This is where the dynamic range of the input video will scale from 0-255, as typically seen with PC signals.	
Super White	This is set when the dynamic range of the input video scales from 16-255.Please set the output to video equipment compatible with Super White for Super White-enabled DVD / BD etc.	
Level Check 0 / 235 255 / 16	You can confirm the dynamic range of the input signal. A pattern as shown in the illustration is displayed in the four corners and center of the screen. Please compare the dynamic range of the input signal with this pattern illustration and confirm. (*) The number in the illustration is the scale level. This number is not displayed. The illustration of the gradation in the figure is accentuated for explanatory purposes. It may be different from the actual scale level.	
Color Space	Adjust the color space of the input signal. Settings: Auto, YCbCr(4:4:4), YCbCr(4:2:2), RGB	[Auto]
Auto	YCbCr(4:4:4), YCbCr(4:2:2), RGB signals are automatically detected and configured.	
YCbCr (4:4:4)	Settings if the input of a YCbCr(4:4:4) input video image signal is detected.	
YCbCr (4:2:2)	Settings if the input of a YCbCr(4:2:2) input video image signal is detected.	
RGB	Default setting when RGB video signals input are detected.	
Control with HDMI	Configured communication of HDMI equipment. Settings: On, Off	[Off]

2-2 COMP.

	(*) The Component video input selection.	
Color Space	This configures the input signal method of the component input. Settings: Y Pb/Cb Pr/Cr, RGB	[Y Pb/Cb Pr/Cr]
Y Pb/Cb Pr/Cr	The setting for the component video input signal.	
RGB	The setting for the RGB video image input signal.	

2-3 3D Settings

	Use this function to select the 3D signal mode, turn 2D/3D conversion ON/OFF and to adjust the appearance of 3D images. Use the UP/DOWN keys to select the item to adjust. Press the [BACK] key to return to the previous screen.	
3D Format	This control selects the 3D input signal format. Use the [LEFT] and [RIGHT] keys to configure the desired settings. Press the [OK] key to display the available settings list, then use the [UP]/[DOWN] keys to make your selection. The [BACK] key returns you to the previous screen. (*) Some signals may not be embedded with 3D information, thus the image projected may revert to 2D. Reconfigure such selections manually. (*) It is recommended to read "On 3D" (reference pages: 59-61) of the User’s Manual before watching 3D video images. Settings: Auto, Side by Side, Top & Bottom, 2D	
Auto	3D formats are determined automatically.	
Side by Side	Select this if the 3D input signal is the side by side method.	
Top and Bottom	Select this if the 3D signal is the top and bottom method.	
2D	Projected as a 2D signal.	
2D/3D	This feature converts current 2D images into a quasi-3D video image. This effect may not be visible with certain content.	
On	Select to convert 2D video images to 3D	
Off	Select to NOT convert 2D images into 3D	

Parallax	This function enables fine adjustment of any misalignmemt of the left and right 3D video images. Adjust these settings to your preference by using the [LEFT]/[RIGHT] keys. Press the [OK] key to display the adjustment window. The [BACK] key returns you to the previous screen. (*) Cannot be adjusted when the "2D/3D" feature is ON. Settings: -15~15	
Crosstalk Cancel	This reduces cross-talk within 3D image content. Adjust these settings to your preference by using the [LEFT]/[RIGHT] keys. Press the [OK] key to display the adjustment window. The [BACK] key returns you to the previous screen. (*) May be adjusted during 3D playback but not when the "2D/3D" feature is ON.	
White	Settings: -8~8	
Red	Settings: -8~8	
Green	Settings: -8~8	
Blue	Settings: -8~8	
Intensity	This function adjust for image depth perception. Adjust these settings to your preference by using the [LEFT]/[RIGHT] keys. Press the [OK] key to display the adjustment window. The [BACK] key returns you to the previous screen. (*) May be adjusted when the "2D/3D" feature is ON. Settings: 1~5	
Sub Title Adjust	Select this to automatically identify subtitles and set 3D conversion to On or OFF. Adjust settings to your preference. (*) May be adjusted when the "2D/3D" feature is ON. (*) There may be instances where automatic identification does not work, or certain images are identified as subtitles. Use the [LEFT]/[RIGHT] keys to configure your desired settings. Press the [OK] key to display the settingsl list, then use the [UP]/[DOWN] keys to make your selections. The [BACK] key returns you to the previous screen. Settings: On, Off	

3 Installation

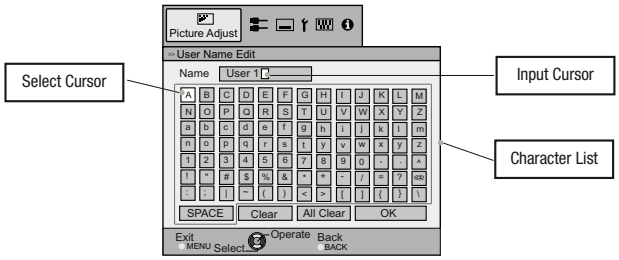
Lens Control	Sub-menu "[3-1] Lens Control" Pixel Adjust	
Pixel Adjust	To submenu "[3-2] Pixel Adjust"	
Installation Style	Adjusts for the projector's position; one can switch horizontal and vertical flip / forward switch. Settings: Front, Ceiling Mount (Front), Rear, Ceiling Mount (Rear)	[Front]
Front	Front upright projection mode.	
Ceiling Mount (F)	Ceiling/front projection mode.	
Rear	Rear upright projection mode.	
Ceiling Mount (R)	Ceiling/ rear projection mode.	
Keystone	Concerning the projection plane, keystone correction may be deployed (especially useful when the projector is not parallel to the screen or environment). (*) There may be instances, when the video image - after having corrected for keystone distortion - will still not match the screen. The position with a shift correction of 0% position is one exception. (*) With 3D input signals, keystone adjustment is not possible.	
Horizontal	Adjusts the horizontal keystone. Settings: -40 to 40	[0]
Vertical	Adjusts the vertical keystone. Settings: -30 to 30	[0]

Anamorphic	The video images are enlarged [stretched] in the vertical direction of the panel resolution. This setting is used when one uses the anamorphic lens to enlarge them in the horizontal direction. (*) Anamorphic modes cannot be set when there is a 3D signal input. If a 3D signal is fed in whenever the Anamorphic modes are set to A or B, the Anamorphic modes are automatically turned Off. Settings: A, B, Off [Off]
A	Video with an aspect ratio of 2.35:1 is enlarged in the vertical direction of the panel resolution and projected.
B	Video with an aspect ratio of 16:9 are displayed by reducing them in the horizontal direction, without changing their size in the vertical direction.
Off	Used when watching video images other than those with a 2.35:1 aspect ratio while using an anamorphic lens. 2.35:1 video images are projected without any changes. (Black bands appear on all sides)
Screen Adjust	This control may correct for white balance errors, when determined to occur from the non-uniform reflective properties of the projection screen. Please adjust to your preference.
Black Level	Adjusts black level when used indoors. Settings: 0 to 10 [0]

3-1 Lens Control

	Use this remote button to adjust focus, zoom and shift. You can also turn the test pattern display ON and OFF and then save your lens position settings during adjustment. Use the UP/DOWN keys to select an item to adjust. Press the [BACK] key to return to the previous screen.
Focus	This selection adjusts the image focus.
Zoom	This selection adjusts the image overall size.
Shift	This selection enables you to move the image UP/DOWN/LEFT or RIGHT, using the center rosette.
Image Pattern	A test pattern for your use when adjusting focus, zoom and shift.
On	During adjustment, the test pattern is displayed.
Off	During adjustment, the external input signal is displayed [without the test pattern].
Lock	This locks out or enables use of the lens controls.
On	This effectively locks out the “LENS” functions on the remote control.
Off	This enables the “LENS” functions on the remote control.
VariScope™ Lens Memory Select	This menu function [and via direct IR remote control button] recalls previously saved lens adjustment memories. This is used to toggle between the primary lens VariScope™ aspect ratio memories, i.e. 1.78:1, 1.85:1, 2.35:1 and so forth [as made available by your custom installer].
Lens Memory Save	This saves all focus, zoom and shift settings work into one of three available memories [the user memories can be renamed].
Lens Memory Name Edit	Edit and change the lens memory / aspect ratio names. (*) Number of characters is limited to 10, and may include capital and lower case letters, numbers and symbols.
Memory 1, 2 or 3	Select the user memory name you wish to edit. Press the [OK] button on the main unit or the remote control to confirm and enter the edit mode. (*) A “-“ is displayed if the information is not saved. (*) Press the [BACK] key on the main unit or remote control at anytime to exit the edit mode. Doing this will delete your modifications.
Input Cursor	This highlights the edit area. The cursor will move automatically as you enter characters.
Select Cursor	Move the cursor using the [UP], [DOWN], [LEFT] and [RIGHT] keys on the projector or on the remote control. Select the letter to enter and press the [OK] button. Make the next letter, number or symbol selection and press [OK].
Clear	Use this to delete a character. Move the select cursor to the desired location and press the [OK] button. This will delete the character in the Name field.

All Clear	Use this to delete ALL characters. Move the select cursor to the desired location and press the [OK] button. A delete confirmation message will appear.
OK	Use this function to save the entered name information. Select [OK] and a saved confirmation message will appear.



3-2 Pixel Adjust

This fine tunes possible slight color errors in the horizontal/vertical directions of the video Images, in units of 1 pixel.
(*) It is impossible to match all image pixels on the screen. Due to the technology there will always be some gaps.
(*) In case the image is reversed, or upside-down, the horizontal and vertical directions are reversed.
(*) Please perform adjustments on a clear still image.
(*) For fine tuning, the effects of adjustments may be difficult to see on some video images.

Horiz. Red	(Move red to the left) 1 to 5 (move red to the right)	[3]
Horiz. Blue	(Move blue to the left) 1 to 5 (move red to the right)	[3]
Vert. Red	(Move red down) 1 to 5 (move red up)	[3]
Vert. Blue	(Move blue down) 1 to 5 (move blue up)	[3]

4 Display Setup

Back Color	Sets the background color when no input signal is detected. Settings: Blue, Black	[Blue]
Blue	Sets the background color to blue.	
Black	Sets the background color to black.	
Menu Position	Sets the position of the on-screen menu. By pressing the [OK] button, an image illustration appears at the position of the menu. The highlighted position in the illustration can be moved via the left and right keys. If one presses [OK], the menu moves to the highlighted position. If you press the key to the right, the menu will move starting from the top left -> top right -> central -> bottom right -> bottom left and then back to the upper left. By pressing of the left key, the menu moves in the opposite direction.	[Upper left]
Menu Display	Determines the length of time to display the menu. Settings: 15 sec, On	[On]
15 sec	If there is no operation for 15 seconds, the menu disappears.	
On	Display is always on until dismissed.	
Line Display	Configures if input is displayed [or not] whenever the input is switched. Value: 5 sec, on	[5 sec]
5 sec	Displays for 5 seconds.	
Off	Not displayed.	
Source Display	Configures whether or not to display the signal, when the input is switched. Settings: On, Off	[On]
On	Display.	
Off	Not displayed.	
Logo	Configures whether or not to display the "D-ILA" logo upon activation. Settings: On, Off	[On]
On	Displayed for 5 seconds.	
Off	Not displayed.	

5 Function

Trigger	Configures 12V output to an external device (ex: motorized screen equipped with a trigger function]. Settings: Off, On (Power), On (Anamorphic)	[Off]
Off	No output.	
On (Power)	When projector power is turned on, a 12V control pulse is emitted from the trigger output. When turning off power, the output of the 12V control signal stops. During standby mode, an output will occur if the OPERATE button is pressed. After cooling, the output stops [as the projector returns to standby].	
On (Anamo)	Control signals (12V) are emitted when the Anamorphic mode is set from “Off” to “A” or “B”. If the Anamorphic mode is set to “A” or “B”, the operation in this state equals “On (Power)”.	
Off Timer	Establishes a system Power Off Timer. * If there are no operations, the unit powers off automatically. * It powers off automatically even while projecting an image. Settings: Off, 1 hour, 2 hours, 3 hours, 4 hours	[Off]

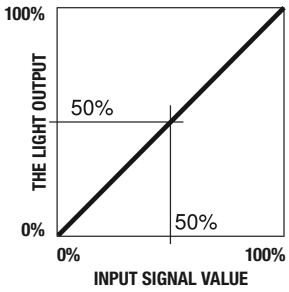
Off	Power is not turned off.	
1 Hour	Power is turned off automatically after 1 hour.	
2 Hour	Power is turned off automatically after 2 hours.	
3 Hour	Power is turned off automatically after 3 hours.	
4 Hour	Power is turned off automatically after 4 hours.	
High Altitude Mode	Used when the projector is installed at higher elevations (appx. 3000 feet , or 900m above sea level). Settings: On, Off	[Off]
On	Set.	
Off	Not set.	
Communication Terminal	Determines the control terminal to be used. Only one terminal type may be used at one time. Settings: RS-232C, LAN	[RS-232C]
RS-232C	Select the RS-232C port.	
LAN	Selects the LAN port.	
Network	Network is displayed if LAN is chosen in "Communication terminal" submenu "[5-1] Network" is set to "LAN".	
Lamp Reset	Resets the lamp use timer to "0".	

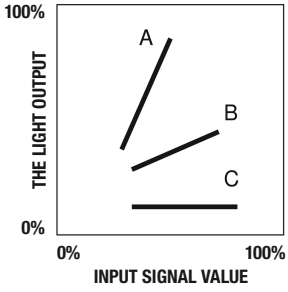
5-1 Network

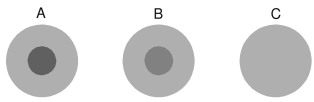
DHCP Client	Sets the DHCP client. Settings: On, Off	[Off]
On	Automatically obtains an IP address from the connected network's DHCP server. * The automatic retrieval starts with the "Set" within the menu.	
Off	The network settings are established manually.	
IP Address	Sets the IP address.	[192.168.0.2]
Subnet Mask	Sets the subnet mask.	[255.255.255.0]
Default Gateway	Sets the default gateway.	[192.168.0.254]
MAC Address	Displays the MAC address of the unit.	
Set	[5-1] Reflects the network setting.	

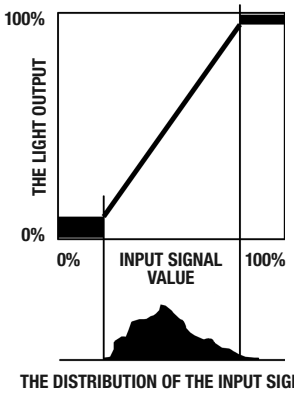
6 Information

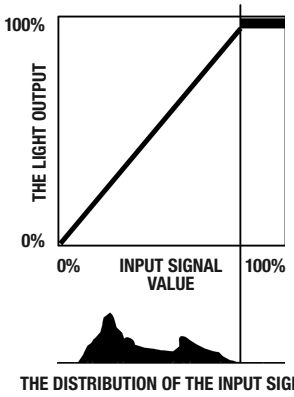
Displays upon HDMI/COMP. input	
Input	Displays video image input terminal.
Source	Displays the name of the input source.
Deep Color	Displays the color bit depth concerning an input video signal. * When you input YCbCr (4:2:2), it is not displayed. * When there is information about DeepColor from the source device, it is displayed.
Lamp Time	Displays the lamp usage time.
Displays upon PC input	
Input	Displays video image input terminal.
Resolution	Displays image resolution.
H Frequency	Displays the H Frequency.
V Frequency	Displays V Frequency.
Deep Color	Displays the color bit depth concerning an input video signal. * When you input YCbCr (4:2:2), it is not displayed. * When there is information about DeepColor from the source device, it is displayed.
Lamp Time	Displays the lamp usage time.











Operation Guide Glossary

Gamma Curve

Gamma encoding of images is required to compensate for properties of human vision - to maximize the use of the bits or bandwidth [in digital devices] relative to how humans perceive light and color. Human vision under common illumination conditions (not pitch black or blindingly bright) follows an approximate gamma or power function. If images are not gamma encoded, they allocate too many bits or too much bandwidth to highlights that humans cannot differentiate, and too few bits/bandwidth to shadow values that humans are sensitive to and would require more bits/bandwidth to maintain the same visual quality. [… excerpt from Wikipedia, 6/11]

The gamma curve of the SDC-15 projector can be custom tailored to match the relative values of the input signal, the projector's light output, for optimum picture fidelity. Adjustments can be made both in total white and via the three primary RGB colors.

The value of the input video image signal is displayed as a percentage - with both being displayed in % of units - of the maximum light input signal for brightness, and the brightness output value as a percentage of the maximum output of the projector. We can say that relative to the signal input value at 50%, it projects with a brightness output value also at 50%. However, a light output value of 0% is not completely black since that cannot be projected [the possibility of any projector to reproduce absolute blackness is limited; thus the light output at "0% black" will be actually slightly brighter in real terms].

The input video image signal value is thus represented by a continuous gamma curve from 0% to 100%, which can be adjusted by you or your calibrator. The gamma curve can be set for each color separately, i.e. red, green and blue – or by selecting white to adjust all colors at the same time.

A larger "angle" of inclination of the gamma curve ("A" below) leads to a greater differentiation of the light output values in that area, thus making it easier to resolve fine details in the video. A lower "angle" of inclination will lead to fewer differences in that area, making the images harder to distinguish between the important gradations ("B"). If it is impossible to achieve any inclination angle, becoming horizontal, the gap in that area vanishes and it may be impossible to distinguish between any of the key details in video ("C").

Suppose you knew the exact inclination (or gamma curve) value(s) of the input video signal, and could increase the slope in the desired areas and attenuate the slope in other portions of the video. The result would be a clearer, well defined image. Conversely, if one does not know the inclination values of the video content, fine adjustment might be more difficult to perform. However, there are some known trends of the input signal value and loosely determined by the type of video content. A few typical examples are presented in the [Gamma] (Reference Page:48).

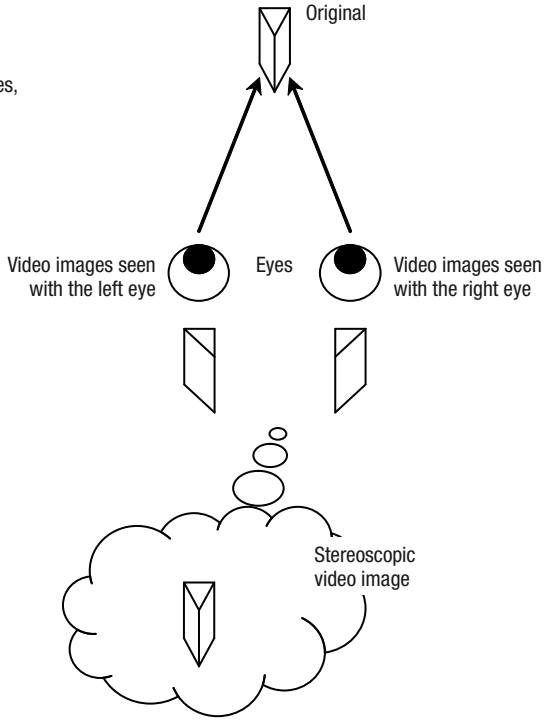
Some methods about how to adjust the gamma curve are presented here, but in reality one can think of various adjustment methods, for example where red, green and blue are individually adjusted. In your own image creation, please work the process of trial and error and discover for yourself the impact of various gamma curves.

3D [Stereoscopic] Viewing

This is a brief description of the 3D methodology available from this projector. You will need 3D-glasses, a 3D emitter that synchronizes the active shutter glasses with the projected images (3D glasses and emitter sold separately), plus appropriate content from a 3D Blu-ray player, cable or satellite system, or game console.

The 3D scheme employed by this system utilizes the principle of binocular parallax. It projects with the frame sequential method, where separately alternating images are produced for the left and right eye. Opening and closing of 3D glasses fitted with liquid crystal shutters are controlled in such a way that video images corresponding to the right/left eye and are only visible by the respective eye. As a result, one can see true three-dimensional images with this system:

Binocular Parallax:
Difference of view on a single object as seen by the left and right eyes, respectively.



Due to the subtle difference of image perspective as seen by each eye, the brain perceives them in a stereoscopic way. The 3D video images that "may" be seen by the respective eyes are artificially produced today by sophisticated 3D cameras. Due to the exposure of each eye to ONLY the respective left and right video images, the brain is induced to create a stereoscopic image - an illusion which is not present in the real object. In other words, today's 3D magic is a sophisticated use of virtual imaging techniques!

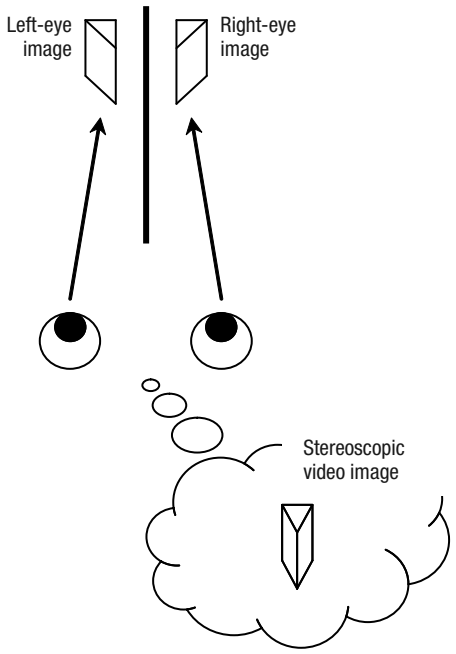
Please stop watching at once if you feel unwell and consult aphysician if necessary.

- People who suffer from certain types of photosensitivity, from heart disease, or people in generally poor physical condition should not watch 3D video images from this device.
- It is recommended that you take a break periodically. Length and frequency of the breaks will vary due to individual differences and tolerances. Please judge for yourself and use caution when viewing for longer periods of time.
- The brain and eyes function to judge stereoscopic vision. A feeling for real distances starts to develop from early childhood; we learn distances by touching and seeing real objects. Even though there are individual differences, children under 5 are still developing these important skills. Letting them frequently watch virtual 3D images can be an obstacle in the development of the real world's three-dimensional perspectives.
- Young children may suddenly become nauseous when watching 3D images. They may continue to watch for long periods without understanding where the symptoms of motion sickness arise from 3D imagery. Please accompany your children while watching in 3D, and pay particular attention to the health of our younger viewers at all times.

In most cases, 3D images are produced horizontally and are meant to be displayed in the horizontal viewing plane. Since it is known that 3D viewing can cause certain problems with sensitive or young viewers (such as motion sickness), please do not hold the 3D glasses slanted relative to the video images.

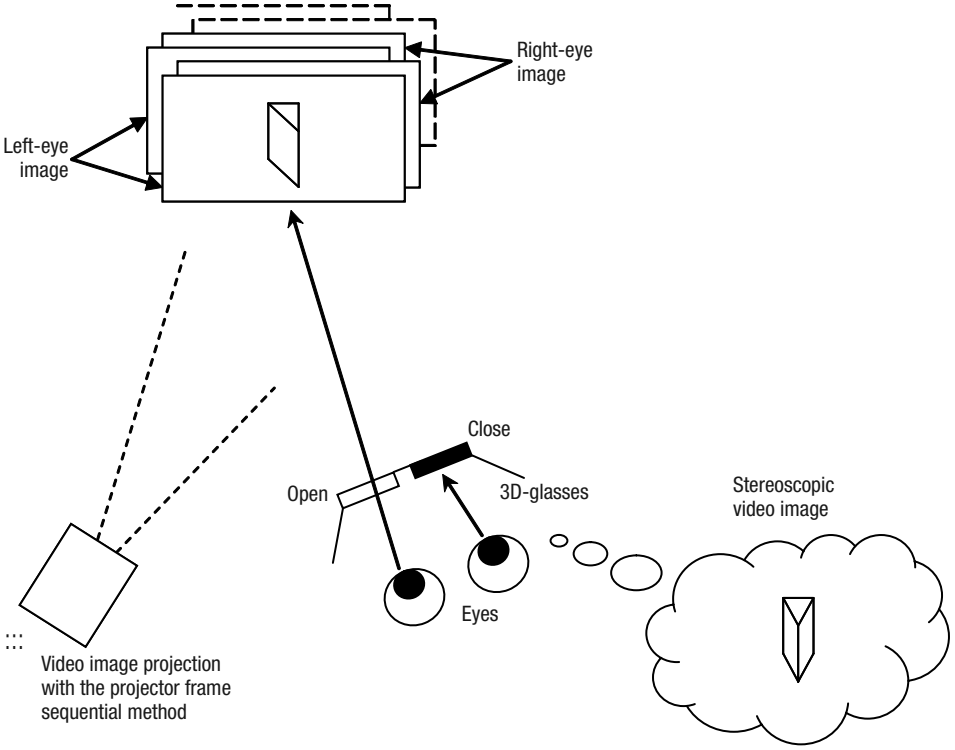
Please watch 3D images from a distance approximately three times the height of the screen. For example, for a projected image on a 120-inch diagonal screen, that screen is just under 5-feet tall. One should thus sit approximately 15 feet from the screen. Please refer to page 25, and review the table with screen sizes and height measurements. Choosing a distance closer than recommended may cause undue eyestrain.

Separate images which can be seen by the right eye and left eye, respectively, are taken and produced separately. Therefore, the image for the left eye is only visible to the left eye, and the images for the right eye only or the right eye. The human brain perceives stereoscopic images based on image information from both sides.



The closer one looks at stereoscopic images, the greater the binocular disparity, which means greater perception of outward projection. At the same time, 3D images must fit the screen, but the projected image and the artificially created 3D focal plane may be in conflict. This may cause visual fatigue and discomfort.

The frame sequential method is a way of displaying left- and right-eye video images [sequentially]. The projector projects the video images used for the left- and right-eyes directly onto the screen. The video images for the left and right side are only visible with the respective eye, as the left and right sides of the 3D glasses are opened and/or shut rapidly by a liquid crystal shutter. As a result, the left and right images are seen only by the respective eye and reveal a 3D image.



In order to match the timing of the 3D video images with the opening/closing of the liquid crystal shutters, the projector sends rapid timing data to the 3D glasses, via infrared pulses as broadcast from the 3D emitter.

As the video images for the left and right side flash alternatively when displayed, we urge you to refrain from looking at the screen with the naked eye. Insure sufficient 3D glasses are present for your entire viewing audience.

- The optional 3D glasses are only to be used for viewing 3D videos from the projector. Please do not use it for watching other objects or for watching 2D video images.

With using the 3D emitter, please orient the emitter in such a way towards the audience glasses, so that the IR timing data can reach the 3D glasses without interference. The IR information may be "bounced" off certain screen surfaces and reach the glasses.

- In certain cases, the system may still not work correctly, especially:
  - If you are near other infrared communication equipment or lighting.
  - If the 3D emitter is oriented away from the 3D glasses.
- Depending on the type and usage of 3D emitters, it is also possible that its operation might influence the operation of other devices using infrared communications.

When the lamp run time approaches 3,000 hours, a message is displayed on the screen and the lamp replacement is encouraged.

- NEVER insert your hands into the ANY opening while AC power is connected! This could cause product failure plus severe personal injury, electric shock and even death.
- Do not replace the lamp immediately after the projector has been used; allow a cooling period of 1 hour or more before lamp replacement. The lamp assembly may still be hot and can cause burns.
- Do not shake or otherwise roughly handle the lamp unit. This may cause failure.
- Do not use any flammable cloth or duster to clean the internal parts of the projector. This may cause a fire.

MEMO

Usable Lamp Life

- When the “Lamp Power” is set at “Normal", the lifetime of the lamp will be approximately 3000 hours. This is an average lifetime and cannot be guaranteed.
- The lamp may not reach 3000 hours depending on your viewing frequency or operating conditions.
- When the lamp has reached the end of its usable life, deterioration progresses rapidly.
- If the picture becomes dark, the tint becomes strange, or the image flickers, promptly replace the lamp.

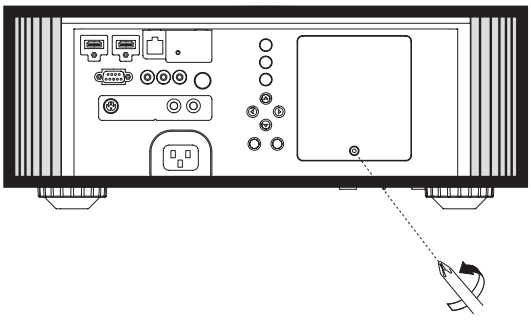
Lamp Replacement Procedure

The lamp is a replaceable item. If the image becomes dark over time, or the lamp fails then replace the lamp assembly.

1 Remove the Power Plug from the Outlet

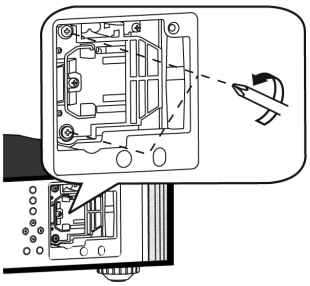
2 Remove the Lamp Cover

- Remove the screws with a ⊕ screwdriver.



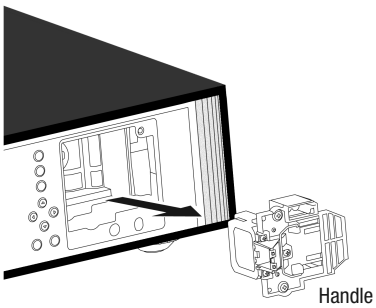
3 Loosen the Screws on the Lamp Unit

- Loosen the screws with a ⊕ screwdriver.



4 Pull Out the Lamp Unit

- Grasp the handle and pull out the lamp unit.



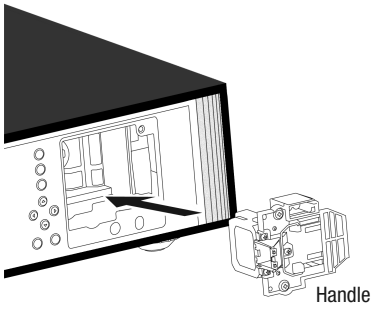
Purchasing the Lamp Unit

Please consult your authorized Wolf Cinema dealer.

Lamp Unit

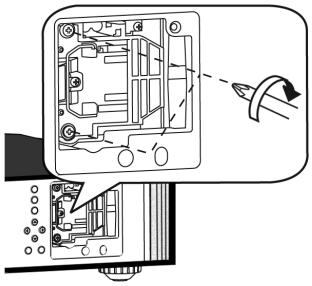
Part No.: WC-LPU220

5 Remove the Power Plug from the Outlet



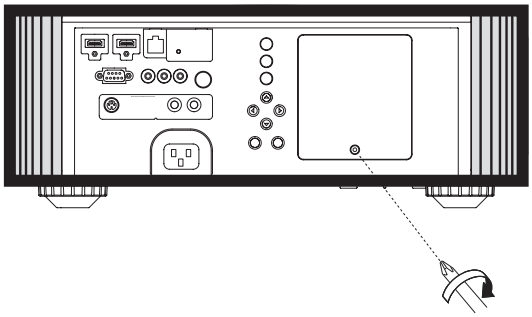
6 Tighten the Screws of the New Lamp Unit

- Tighten the screws with a ⊕ screwdriver.



7 Attach the Lamp Cover

- Insert the top part (with 2 claws) of the lamp cover into the unit.
- Fasten the screws with a ⊕ screwdriver.



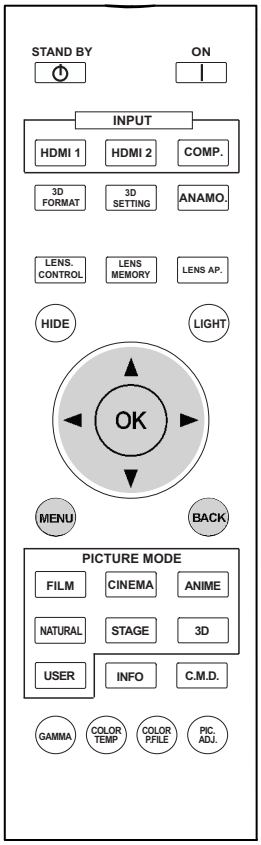
Use only genuine replacement parts for the lamp unit. Also, never attempt to reuse an old lamp. This may cause a malfunction.

- Do not touch the surface of a new lamp. This may shorten the lamp life and cause lamp blowout.

MEMO

After Replacing the Lamp

- Do not place the removed lamp unit at any location reachable by children, or set it near combustible items.
- Dispose of used lamp modules in the same way as fluorescent lamps. Follow your local community rules for disposal.

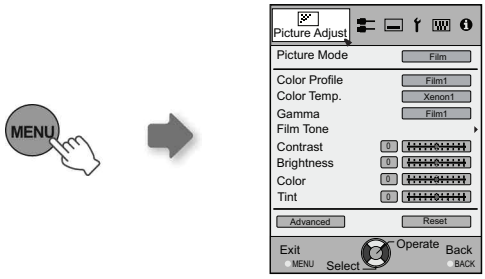


Resetting Lamp Time

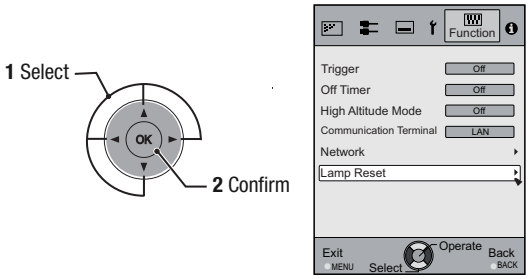
After replacing a lamp unit, please reset the lamp time.

Reset the lamp time from the menu screen.

1 Display the Setting Menu

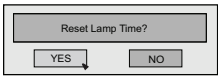


2 Select "Function" ➡ "Lamp Reset"



3 Re-confirm

- Select "Yes" and the lamp time is set to zero. Moreover, one returns to the previous menu.

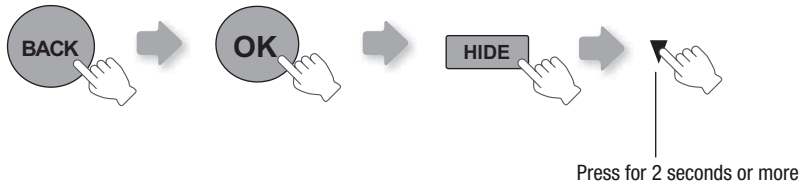


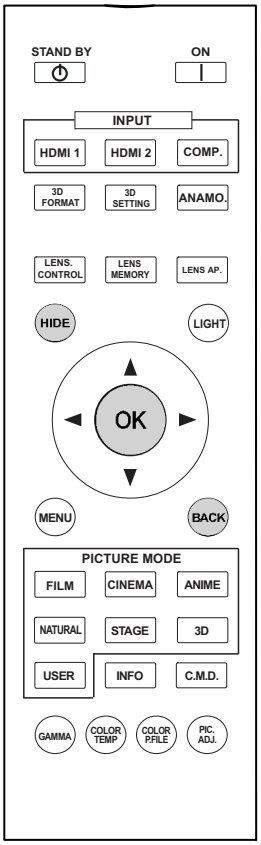
Reset the lamp time by remote control.

1 **Insert the Power Plug to the Power Outlet**

2 **Operate the Remote Control with the Projector in the Standby Mode (the projector is powered, but is not turned on)**

- Press in the order as shown.
- Press each button within 2-second intervals and press the last button for 2 seconds or more.
- [STANDBY/ON] indicator and [LAMP] indicator blink alternately for 3 seconds. After that, the unit switches to standby mode.





Reset the lamp time only when you have replaced the lamp.

- Never reset the service time when the lamp is still in use. Otherwise, the approximate standards for gauging replacement time may be inaccurate and lamp blowout may occur.

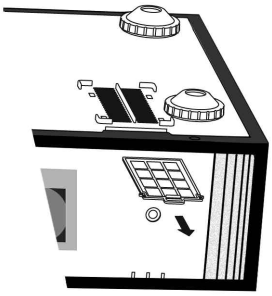
Pull the AC power plug from the power outlet before cleaning.

MEMO
If the filter is Damaged or Too Dirty to be Cleaned

- Replace with a new filter. A dirty filter will not protect the internal parts of the unit and may cause shadows to appear on the video image.
- To purchase a new filter contact your authorized Wolf Cinema dealer.

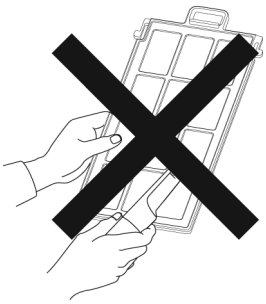
Cleaning and Replacing Filters
Clean the filter regularly or air intake efficiency may deteriorate and malfunction may occur.

1 Remove the Filter

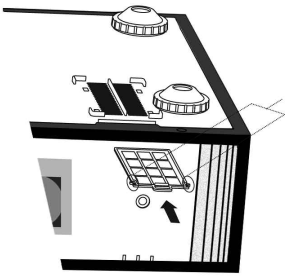


2 Clean the Filter

- Wash the filter with water and dry it in a shaded area.
- In extremely soiled cases, the use of a neutral detergent is recommended. Put on rubber gloves when using a detergent.
- After washing the filter with water, make sure that it is completely dry before reinstalling - otherwise electric shock or malfunctions may occur.
- Do not clean the filter with a vacuum cleaner or air duster. The filter is soft and may be damaged.



3 Reinstall the Filter



Purchasing the Replacement Filter
Please consult your authorized Wolf Cinema dealer.

Replacement Filter
Part No.: WC-FPSDC-01

Troubleshooting

Before Sending the Projector Back to Your Authorized Dealer for Repair,
Please Check the Following

- You do not need to worry about the following situations if there is no visual abnormality on-screen.
  - Part of the top surface or front of the unit runs hot.
  - A creaking sound is heard from the unit.
  - An operating sound is heard from the inside of the unit.
  - Color smears occur on some screens.
- Perform the following test if the unit does not operate normally, often due to external static discharge or noise.
  1 When the unit is in standby mode, pull out the AC power plug, then re-insert again.
  2 Press the power button on the unit to turn on the power.
- A sound may be heard when the lamp is off but there is no danger.
- D-ILA light engines are manufactured using high-precision technologies, but over time there may be some missing pixels or pixels that remain permanently lit.

No Power		
Is the power cord disconnected?	Insert the power cord (plug) firmly.	Reference page: 33
Is the lamp cover properly shut?	Remove the power plug when the unit is in standby mode and close the lamp cover properly. After that, insert the AC plug again.	Reference page: 62
Is the lamp in Cool Down mode?	After the Cool Down mode is complete, turn on the power again.	Reference page: 35

Video Image Does Not Appear		
Is the correct external input selected?	Chose the correct external input.	Reference page: 34
Is the AV device properly connected?	Connect the AV device properly.	Reference page: 27 to 30
Is the power of the AV device turned on?	Turn on the power of the AV device and play the video.	Reference page: 34
Are the correct signals being output from the AV device?	Set the AV device properly.	Reference page: 27 to 30
Is the setting of the input terminal correct?	Set "COMP." and "HDMI" in the setting menu according to the input signal.	Reference page: 53 to 54
Is the video image temporarily hidden?	Press the [HIDE] button to display the video image again.	Reference page: 38

Remote Control Does Not Work		
Are batteries installed correctly?	Match the polarities (⊕ or ⊖) correctly when inserting the batteries.	Reference page: 20
Are batteries exhausted?	Replace with new batteries.	Reference page: 20
Is there an obstruction between the remote control and remote sensor?	Remove any obstructive objects.	Reference page: 25
Is the remote control held too far away from the unit?	Hold the remote control closer to the sensor when using.	Reference page: 25

The Picture Cannot be Projected from HDMI Sources		
Will the picture flicker and become invisible with HDMI input?	Please use a shorter HDMI cable.	Reference page: 28

The Image Cannot be Seen from an HDMI Source		
Is the setup of “Control with HDMI” function “Off”?	Set up the “Control with HDMI” function to “Off”.	Reference page: 53

- Even if the “Control with HDMI” function is “On”, there are still some devices that cannot reveal images normally via HDMI.

Color Does Not Appear or Looks Strange		
Is the image correctly adjusted?	Adjust “Color” and “Tint” in the setting menu.	Reference page: 49

Video Image is Fuzzy		
Is the focus correctly adjusted?	Adjust the focus.	Reference page: 34
Is the unit placed too near or too far away from the screen?	Set the unit at a correct distance from the screen.	Reference page: 23, 25

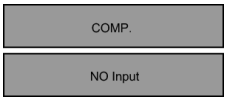
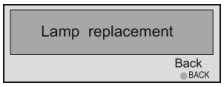
Video Images are Missing or Cropped		
Has setting been performed for screen mask?	Set “Mask” in the setting menu to “Off”.	Reference page: 37, 53
Is the display out of position?	Alter the “Picture Position” value in the setting menu to ensure that images are not missing.	Reference page: 52

Projected Image is Dark		
Is the lamp near exhaustion?	Check the lamp time on the information menu. Prepare a new lamp unit or replace as soon as possible when the lamp is near its end time.	Reference page: 62 to 65

The Unit Works when Power is Turned on but Stops Abruptly After a Few Minutes		
Are the air inlets and exhaust vent blocked?	Remove the power plug when the unit is in standby mode and remove any blocking object. After that, insert the plug again.	Reference page: 3, 15
Is the filter dirty?	Clean the filter.	Reference page: 66

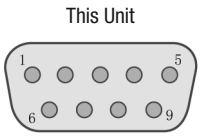
Power is Cut Off Suddenly		
Has setting been performed for off timer?	Set “Off Timer” in the setting menu to “Off”.	Reference page: 56 to 57

Error Messages

Message	Cause (Details)
	No device is connected to the input terminals. The input terminal is connected but there is no signal. Input appropriate video signals from compatible sources.
	A video signal that cannot be used in this unit has been connected. ➡ Input video signals that can be used. *The names of input terminals such as COMP. will be displayed in yellow.
	This message is displayed when the accumulated lamp time has exceeded 2900 hours. To clear the message, press the [Back] button. ➡ Prepare a new lamp unit and replace it as soon as possible. Reset the lamp time after replacing the lamp. (Reference page: 62 to 65)

The projector may be remotely controlled when connected with an RS-232C cross cable (D-Sub9 pin) to a PC or system controller. The projector can also be connected to a computer network by connecting it with a LAN cable and sending the proper control commands. Contact your Wolf Cinema dealer for additional details.

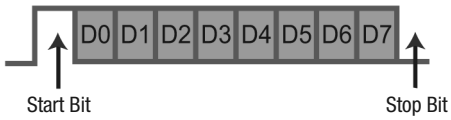
RS-232C Specifications



Pin No.	Signal	Function	Signal Direction
2	RxD	Receive data	PC→This unit
3	TxD	Transmit data	This unit→PC
5	GND	Signal ground	-
1,4,6 - 9	N/C	-	-

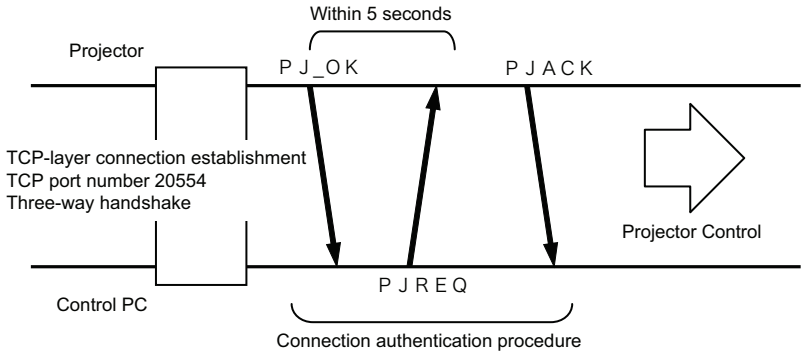
Mode	Non-synchronous
Character Length	8 bit
Parity	None
Start Bit	1
Stop Bit	1
Data rate	19200 bps
Data format	Binary

- PC refers to the controller such as a personal computer.



TCP/IP-Connection

Before you can control the projector via LAN, you have to establish a TCP-connection via a “3-way-handshake”. It is necessary for a connection authentication to be sent from the projector “PJ_OK” and - within 5 seconds after sending a “PJREQ” – to receive “PJACK”. Please perform this operation – after confirming the operating status of the projector - again after establishment of a TCP connection, if you cannot send within 5 seconds “PJ_NG” or could not receive “PJNAK”.



Command Format

The command between this unit and the computer consists of "Header", "Unit ID", "Command", "Data" and "End".

- Header (1 byte), Unit ID (2 bytes), Command (2 bytes), Data (n bytes), End (1 byte).

Header

This hexadecimal code indicates the start of communication.

Hexadecimal Code	Type	Description
21	Operating command	PC → This unit
3F	Response command	PC → This unit
40	Reference command	This unit → PC
06	ACK	This unit → PC (When the command is accepted without error, it returns to PC)

Unit ID

This code specifies the unit. The hexadecimal code is fixed at "8901".

Command and Data

Operating command and data (hexadecimal code)

Command	Type	Description
0000	Connection check	Check whether communication is available between this unit and the PC during standby.
5057	Power supply	During standby 31: Turn on the power. During power on 30: Turn off the power. (Standby mode)
4950	Input	During power on 32: COMP. 36: HDMI 1 37: HDMI 2
5243	Remote Control	Sends the same code as the supplied remote control. • "Remote control code" (Reference page: 72)

Reference command and data (hexadecimal code)

Command	Type	Data Description
5057	Power supply	During standby or power on 30: Standby mode 31: Power-on mode 32: During Cool Down mode 34: Warning mode
4950	Input	During power on 32: COMP. 36: HDMI 1 37: HDMI 2

End
This code indicates the end of communication. The hexadecimal code is fixed at "0A".

Remote Control Code
- hexadecimal code is sent during communication.

Remote Control Button Name	Hexadecimal Code
▲	37 33 30 31
▼	37 33 30 32
BACK	37 33 30 33
ON	37 33 30 35
STAND BY	37 33 30 36
HIDE	37 33 31 44
LENS.AP.	37 33 32 30
MENU	37 33 32 45
OK	37 33 32 46
LENS CONTROL	37 33 33 30
►	37 33 33 34
◄	37 33 33 36
COMP.	37 33 34 44
ANIME	37 33 36 36
STAGE	37 33 36 37
CINEMA	37 33 36 38
FILM	37 33 36 39

Remote Control Button Name	Hexadecimal Code
NATURAL	37 33 36 41
USER	37 33 44 37
HDMI 1	37 33 37 30
HDMI 2	37 33 37 31
PIC.ADJ.	37 33 37 32
INFO.	37 33 37 34
GAMMA	37 33 37 35
C.TEMP	37 33 37 36
3D	37 33 38 37
COLOR PROFILE	37 33 38 38
C.M.D	37 33 38 41
ANAMO	37 33 43 35
COLOR SPACE	37 33 43 44
LENS MEMORY	37 33 44 34
3D SETTING	37 33 44 35
3D FORMAT	37 33 44 36

RS-232C Communication Examples

This section shows the communication examples of RS-232C.

Operating Command

Type	Command	Description
Connection check	PC → This unit: 21 89 01 00 00 0A This unit → PC: 06 89 01 00 00 0A	Connection check.
Power (On)	PC → This unit: 21 89 01 50 57 31 0A This unit → PC: 06 89 01 50 57 0A	When power is turned on from standby mode.
Power (Off)	PC → This unit: 21 89 01 50 57 30 0A This unit → PC: 06 89 01 50 57 0A	When power is turned off (standby mode) from power-on mode.
Input (COMP.)	PC → This unit: 21 89 01 49 50 32 0A This unit → PC: 06 89 01 49 50 0A	When video input is set to component.
Remote Control (MENU)	PC → This unit: 21 89 01 52 43 37 33 32 45 0A This unit → PC: 06 89 01 52 43 0A	When the same operation as pressing the [MENU] button on the remote control is made

Reference Command

Type	Command	Description
Power (On)	PC → This unit: 3F 89 01 50 57 0A This unit → PC: 06 89 01 50 57 0A This unit → PC: 40 89 01 50 57 31 0A	When information of power-on mode is acquired.
Input (HDMI 1)	PC → This unit: 3F 89 01 49 50 0A This unit → PC: 06 89 01 49 50 0A This unit → PC: 40 89 01 49 50 36 0A	When information of HDMI 1 input is acquired.

HIGH-DEFINITION MULTIMEDIA INTERFACE

About Trademarks and Copyright

- HDMI, HDMI logo and high definition multimedia interface are trademarks or registered trademarks of HDMI Licensing LCC.

Caution

D-ILA Device Characteristics

Do not project still pictures or pictures that have still segments for a long period of time. The still parts of the picture may remain ("burn in") onto the screen. Take special notice of images on the screens of video games and computer programs. There is no problem when playing normal video images such as movies or TV content.

When Unit is Unused for a Long Time

Prolonged disuse of the unit may cause component failure. Turn on the power occasionally and operate the unit.

Usage Environment

- Avoid direct exposure to sunlight and direct illumination. Block ambient light using a curtain or shades. Images are improved when darkening the room.
- Do not use this unit in rooms with cigarette smoke or oily smoke. This may cause the unit to malfunction.

Parts Replacement

This unit contains parts (optical parts, cooling fan, etc.) that may require replacement over time to maintain its proper functionality. The estimated time for parts replacement varies greatly depending on the usage and environment. Please consult your authorized dealer for service.

Maintenance Procedures

Dirt on the Cabinet

- Gently clean dirt on the cabinet with a soft cloth. In the case of heavy soiling, soak a cloth in water, wring dry and wipe, followed by wiping again with a dry cloth. Pay attention to the following as the cabinet may deteriorate in condition or paint may come off.
  - Do not wipe with thinner or benzene.
  - Do not spray with volatile chemicals like insecticide.
  - Do not allow prolonged contact with rubber or plastic products.

Dirt in the Air Inlets

- Use a vacuum cleaner to suck up any visible dirt particles in the air inlets. Otherwise, use a cloth to wipe off the dirt. If dirt is allowed to accumulate in the air inlets, the internal temperature cannot be adjusted and this may cause major malfunctions.

Dirt on the Lens

- Carefully brush away any major dist or dirt particles. Clean the lens ONLY with commercial lens cleaning papers, such as used for cleaning glasses and cameras. Do not use fluid-type cleaning agents as this may lead to peeling of the surface coatings.

Specifications

Product Name	Wolf Cinema SDC-10, 3D D-ILA Home Cinema Projector
Model Name	SDC-10
Display Panel/Size	D-ILA device * 2 *3 0.7" (1920 pixels x 1080 pixels) x 3 (total no. of pixels: approx. 6.22 million)
Projection Lens	2.0 x power zoom lens (1.45:1 to 2.78:1) (zoom/focus: power)
VariScope™	Three user-adjustable lens presets - 1.78:1, 1.85:1 and 2.35:1 aspect ratios [NOTE: projector throw distance when utilizing the internal VariScope feature is appx. 1.45:1 to 2.1:1 x SW] [external VariScope FX™anamorphic lens support also provided]
Light-Source Lamp	220 W Ultra-high pressure mercury lamp [Part No.WC-LPU220]
Average Lifespan	2000-3000 hours (normal mode)
Screen Size	Approx. 60" to 200" (aspect ratio: 16:9)
Performance	1300 ANSI, ~70,000:1 CR performance
Resolution	1920 dots x 1080 dots
2D->3D Algorithm	Real time conversion of standard 2D images into 3D
Projection Distance	Approx. 1.8m to 12m
Analog Video Input Formats	480i, 480p, 576i, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz, 1080i/60 Hz
Digital Video Input Formats	480i, 480p, 576i, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz,1080i/60 Hz, 1080p/24 Hz, 1080p/50 Hz, 1080p/60 Hz
Input terminals	
Video Input	1 system, RCA pin jack x3 Y:1.0Vp-p, 75Ω Pb/Cb, Pr/Cr:0.7Vp-p, 75Ω * Also supports R / G / B Sync on G
HDMI Input	2 system, HDMI 19 pin × 2 (HDCP compliant) * 4 Compatible with the HDMI v1.4a standard * 5
Output terminal	
Trigger Terminal	1 system, 3.5mm DC power jack (⊖–⊂•–⊕) DC OUT 12V, 0.1A
3D synchro	3D synchro emitter dedicated terminal (1 system, mini DIN 3pin)
Control Terminal	RS-232C terminal 1 system, D-sub 9-pin (male) x1 (external control)
Remote Terminal	1 system, stereo mini jack x1 (remote control)
LAN Terminal	1 system, RJ-45 plug x1
Power Requirements	AC 110V-240V 50/60Hz
Power Consumption	330W (3.2A) (standby mode: 0.8W)

Operation Environment	Temperature: 5ºC to 35ºC Humidity: 20% to 80% (no condensation) (storage temperature: -10 C to 60 C)
Installation Height	Recommended below 5000 ft (1524 m). (High altitude operating mode available)
Dimensions (WxHxD)	19.5 x 8.8 x 22.5 in., 496 x 224 x 572 mm
Weight	60 lbs., 28 kg. net / 75 lbs., 34 kg. shipping
Accessories	(Please see page 14 of this User's Manual)

Notes:

*** 2 D-ILA is the abbreviation for Direct-Drive Image Light Amplifier.**

*** 3 D-ILA devices are manufactured using extremely high-precision technology. Pixel effectiveness is 99.99%. Only 0.01% or less of the pixels may be off or permanently lit and still be within spec.**

*** 4 HDCP is the abbreviation for High-bandwidth Digital Content Protection system.**

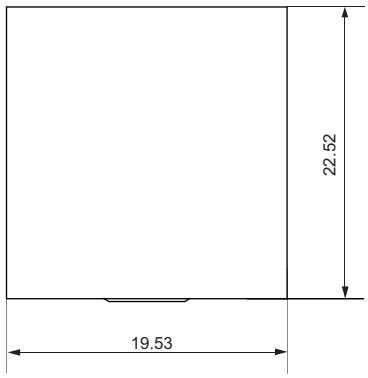
*** 5 Ethernet is not supported.**

- Design and specifications are subject to change without prior notice.
- Please note that some of the pictures and illustrations may have been abridged, enlarged or contextualized in order to aid comprehension. Images may differ from the actual product.

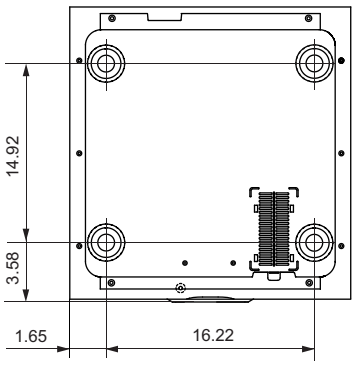
Dimensions

(Unit: inch)

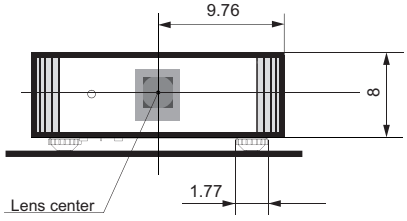
■ Top Surface



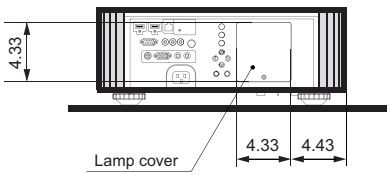
■ Bottom Surface



■ Front



■ Back Surface



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